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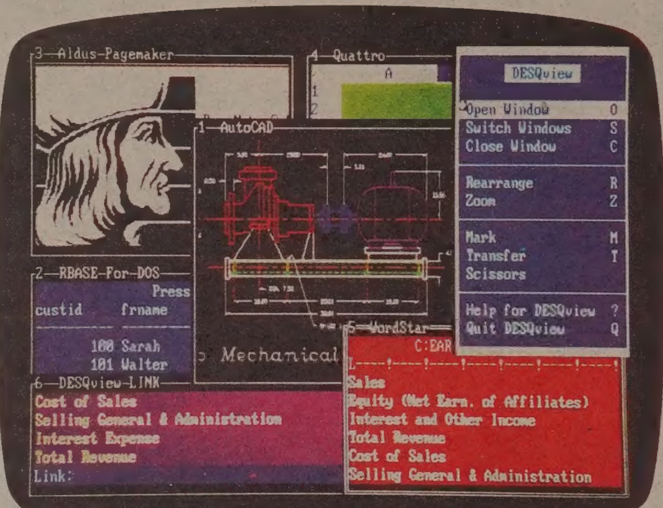

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EDITOR'S
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NOV. 24, 1987

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DESQview lets you have it all now.

DESQVIEW SYSTEM REQUIREMENTS:

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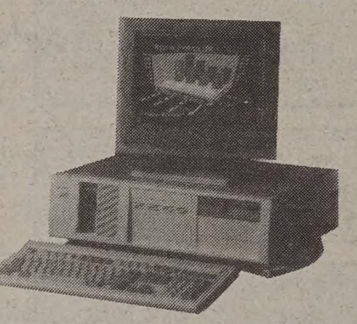

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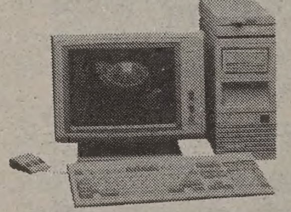

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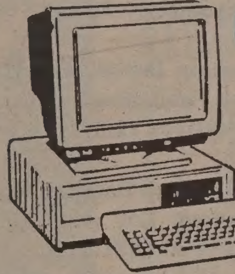

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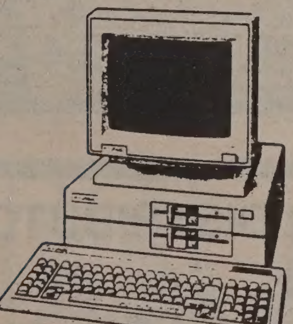

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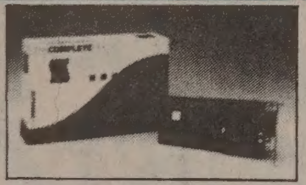

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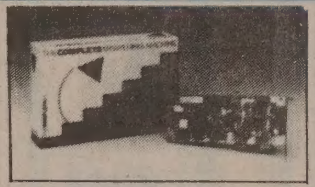

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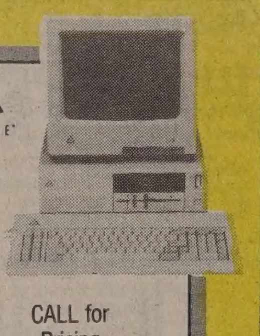

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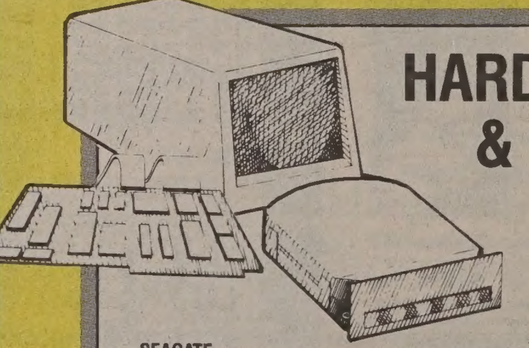

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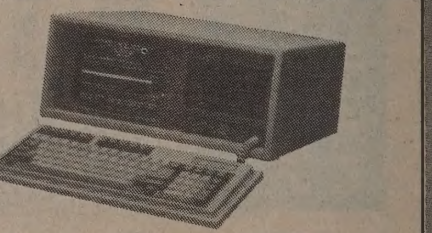

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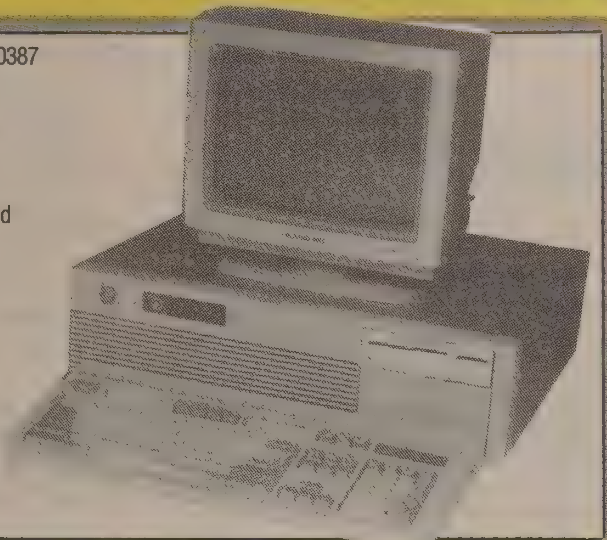

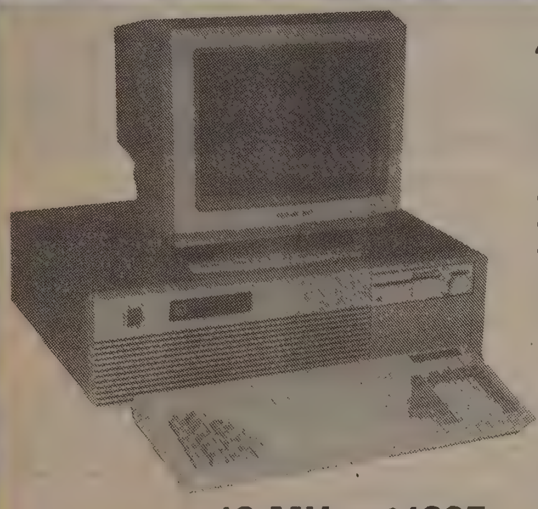

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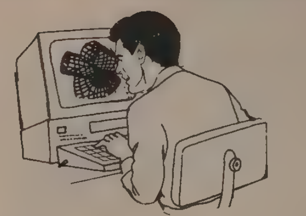

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September 26-28. The Software Re-Engineering Symposium. Los Angeles. Digital Consulting, Inc. Call: (617) 470-3880.

September 26-28 National Database & 4th/5th Generation Language Symposium. Toronto. Digital Consulting, Inc. Call (508) 470-3880 for registration.

September 27-30. Computer Network Management & Control Course. San Diego. Integrated Computer Systems, 1-800-421-8166.

September 27-30 Computer Network Architectures & Protocols Course. San Diego. Integrated Computer Systems, 1-800-421-8166.

September 27-30 Systems Engineering For Integrated Hardware/Software Applications Course. Los Angeles. Integrated Computer Systems. 1-800-421-8166.

September 28-29 Interactive Video '88. Los Angeles Airport Hilton and Towers. International Interactive Communications Society (IICS). Ken Christie, President, (402) 488-3472.

September 29-30 Dataflex Programmer's Class. Los Angeles. Goldcoast Software. Call: 964-1500.

September 30 National Samna Users Group Meeting. Atlanta, Georgia. Samna Corporation. Call: Leslie Raith, (404) 373-8042.

October 1 Computer Swap. Riverside. Computer Swap America. Call: 1-800-366-9162.

October 2-6 SC Japan '88: International Superconductor Applications Symposium And Tour. Superconductor Applications Association. Call: (714) 586-8727.

October 3-6 Fifth Annual International Electronic Imaging Exposition & Conference. World Trade Center, Boston. Institute for Graphic Communication. (617) 232-EXPO for details.

October 4-6 1988 And Beyond: Bus and System Solutions. Javits Convention Center, New York City. BUSCON (714) 669-9105.

October 4-7 Introduction To Datacomm & Networks Course. Los Angeles. Integrated Computer Systems. Call: 1-800-421-8166.

October 5-6 Home Office Explosion: Maximizing Your Market Opportunity Séminar. Laguna Niguel Home Office Computing. Call: Mary Sabolik, (212) 799-5592.

October-7 Software Maintenance Course. Los Angeles. Integrated Computer Systems, 1-800-421-8166.

October 7-10 Second Annual Online Computer Auction. Boston, MA. DELPHI/Boston. Call: Edye Baker or Amy Chosky at the Auction Office at (617) 492-2777, ext. 4202.

October 8 Computer Swap Meet. LA County Fairgrounds, Pomona. RK Productions, 1-800-722-7927.

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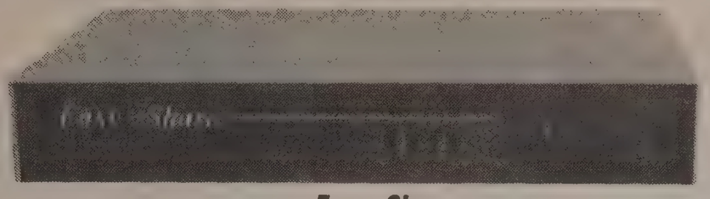

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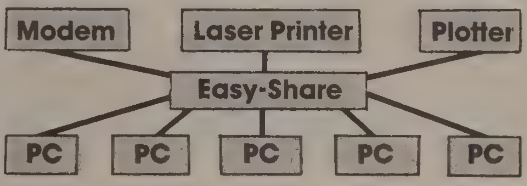

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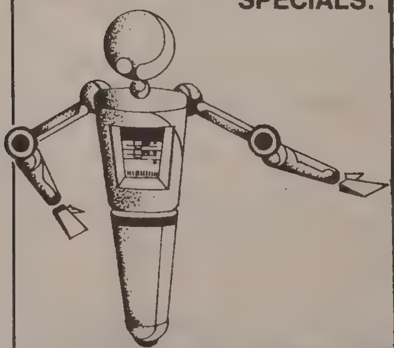

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October 1-4 Apple Expo. Paris, France. Apple Computer France. Free booths for selected US firms. Philippe Haustete, 12, Avenue del'Oceanie, Zone d'Activites de Courtaboeuf, Boite Postale 131, 91944 Les Ulis Cedex, France.

October 15 Computer Swap Meet. Long Beach Convention Center. RK Productions, 1-800-722-7927.

October 17-19 National Database & 4th/5th Generation Language Symposium. DALLAS, TX. Digital Consulting, Inc. Call (508) 470-3880 for registration.

October 17-21 The 1988 Electronic Printer And Publishing Conference Series. CAP International. Call Jean O'Toole or Kristin Fischer @ (617) 982-9500.

October 18-21 Structured Design & Programming Course. San Diego. Integrated Computer Systems, 1-800-421-8166.

October 18-21 Digital Communication Systems: Design & Applications Course. Los Angeles. Integrated Computer Systems, 1-800-421-8166.

October 18-21 Systems Engineering For Integrated Hardware/Software Applications Course. San Diego. Integrated Computer Systems, 1-800-421-8166.

October 18-21. Microprocessor Software, Hardware & Interfacing. Los Angeles. Integrated Computer Systems. Call: John Valenti, 1-800-421-8166.

October 19-21 Micro-Mainframe Connectivity: Practical Linking Tools & Techniques Course. Los Angeles. Integrated Computer Systems. Call: John Valenti, 1-800-421-8166.

October 24-25 Electronic Messaging Conference. Boston. Michael F. Cavanagh, The Electronic Mail Association, (202) 293-7808.

October 25-28 Troubleshooting Datacomm & Networks: Hands-on Workshop. San Diego. Integrated Computer Systems, 1-800-421-8166.

October 25-28 Integrated Voice/Data Communications & ISDN Course. Los Angeles. Integrated Computer Systems, 1-800-421-8166.

October 25-28 Software Project Management Tools & Techniques Course. Los Angeles. Integrated Computer Systems, 1-800-421-8166.

October 25-27 Scientific Computing & Automation Conference And Exposition. Philadelphia Civic Center. Scientific Computing & Automation magazine. Don Wiese, (201) 361-9060.

October 25-28 Microprocessor Troubleshooting: Hands-on Tools & Techniques Course. Los Angeles. Integrated Computer Systems. Call 1-800-267-7014.

November 1-4 16 & 32 Bit Microprocessor System Design Course. San Diego. Integrated Computer Systems. Call: John Valenti, 1-800-421-8166.

November 1-4 Image Processing & Machine Vision Course. Los Angeles. Integrated Computer Systems. Call: John Valenti, 1-800-421-8166.

November 1-4 Software User Interfaces: Design Principles & Techniques Course. Los Angeles. Integrated Computer Systems, 1-800-421-8166.

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November 2-4 LOCALNET 88: The LAN Industry Show & Conference. Hynes Convention Center, Boston. Conference Management Corporation. (203) 852-0500 for information.

November 12 Computer Swap Meet. LA County Fairgrounds, Pomona. RK Productions, 1-800-722-7927.

November 14-15 Algor Products Training Seminar Fundamentals Seminar. Los Angeles. Algor Products at (412) 661-2100 for information and registration.

November 15-18 Computer Network Management & Control Course. Los Angeles. Integrated Computer Systems, 1-800-421-8166.

November 15-18 Local Area Networks: Implementation & Configuration Course. Los Angeles. Integrated Computer Systems, 1-800-421-8166.

November 16 Algor Products Training Seminar Intermediate. Los Angeles. Algor Products at (412) 661-2100 for information and registration or write Algor Interactive Systems, Inc., Essex House L5, Essex Square, Pittsburgh, PA 15206.

November 16-18 Western Educational Computer Conference. San Diego Princess Resort, San Diego. California Educational Computing Consortium. Call: Call: Hal Roach, 594-5611, Ext. 365.

November 17-18 Twelfth Annual Western Educational Computing Conference. San Diego Princess (formerly Vacation Village). California Educational Computing Consortium. Dr. Jack W. Pope, (619) 260-4810.

November 17-18 Algor Products Training Seminar Advanced. Los Angeles. Algor Products at (412) 661-2100 for information and registration.

November 18-19 1988 Real-Time Programming Convention. San Jose. Forth Interest Group. Call: Kent Safford, (408) 277-0668.

November 19 Computer Swap Meet. San Diego County Fairgrounds, Del Mar. RK Productions, 1-800-722-7927.

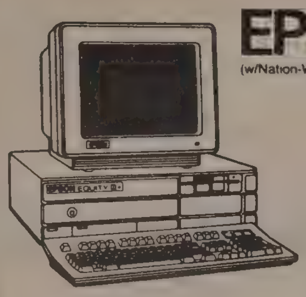
November 29 Integrated Voice/Data Communications & ISDN Course. San Diego. Integrated Computer Systems, 1-800-421-8166.

November 29-December 2 Troubleshooting Datacomm & Networks: Hands-on Workshop. Los Angeles. Integrated Computer Systems, 1-800-421-8166.

November 29-December 2 Local Area Networks: Implementation & Configuration Course. Los Angeles. Integrated Computer Systems. Call: 1-800-421-8166.

As a community service, MicroTimes lists trade show, seminars, and other special events in the Calendar of Events free of charge on a space-available basis. To improve the likelihood of your listings timely inclusion, please make sure we have the necessary information no later than the first of the month two months before the cover date of the issue in which youd like it to appear (i.e. the deadline for the March issue, on the street in February is January 1). Send to: MicroTimes Calendar of Events, 5951 Canning St., Oakland, CA 94609.

News about user group meetings and other regularly scheduled activities should be sent to User Group Network at the same address.



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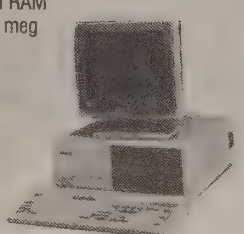

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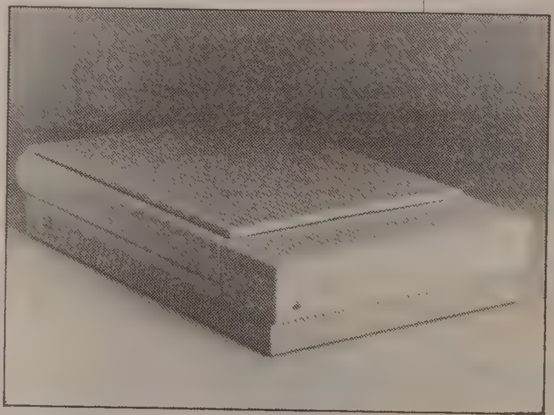


Apple introduces new flatbed scanner. See page 22.

Paul Hoffman is an industry analyst who has been covering microcomputer technology for ten years. He can be reached on USENET (phoffman@well) and MCI Mail (264-3171). He also writes popular microcomputer books.

Chip Consortium Picks Intel's Noyce As CEO

Robert Noyce, one of the best-known founders of the chip-making industry, was chosen to become the chief executive officer of the US government's Sematech chip research group. Noyce was one of the founders of Intel, and he still remains the vice chairman of Intel's board of directors.

Sematech had gotten off to a rocky start, unable to find a CEO after almost a year of searching; Noyce turned down the position earlier. The search committee also announced that Paul Castrucci, head of production at IBM's Vermont semiconductor plant, would be the chief of operations for Sematech. Congress has already promised to give Sematech $100 million for its first year of operation, and was getting worried about not having a high-profile leader for the group.

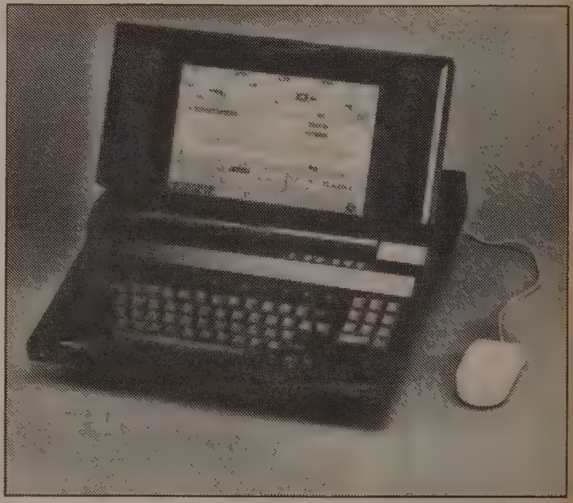
Sematech is designed to help the American chip manufacturers by encouraging them to combine and coordinate research and development of new chips and better production techniques. The major reason for its founding was to counter the Japanese manufacturers, who often publish their research and production results and have close ties to governmental overseeing groups. American manufacturers are much more secretive about their work, and thus often do not know what their competitors are doing.

Sematech will have to convince its members to divulge more information and to participate in group work that will ideally benefit all of them. Since this form of cooperation is much more common in Japanese business than in American business, many critics are skeptical about Sematech's potential for success. Having a well-known leader like Noyce will certainly help get the group publicity and more funding from Congress.

Yamaha Premiers High-Powered Portable Music Computer

Bridging the distant worlds of portable MS-DOS computing and professional music production, Yamaha has introduced the C1 computer specifically for musicians and music industry professionals. The computer resembles many of the other Japanese portables, except that it has two slider controls on the left side of the keyboard and more ports on the back side than have previously been seen in a standard computer. Internally, though, it has many features needed for a musical computer, including MIDI and SMPTE connectors, music fonts in ROM, 1MB RAM standard and full MS-DOS compatibility. The 80286-based computer comes in two standard configurations: with two 3.5 inch floppies or with a 20 Mb hard disk.

The music portions of the C1 take the best of the add-ons that have become available for MS-DOS, Atari, Commodore Amiga and Apple Macintosh computers in the last few years. There are eleven MIDI jacks (eight out, two in and one through) for control of a large number of MIDI devices, as well as SMPTE in and out jacks for precise timing. The computer also has a music-specific DMA controller. The computer's high-resolution (640 by 400) screen allows the user to display and create music on the screen. The standard keyboard also has the musical notation on it so that third-party software can use a standard interface. The computer also has an external monitor jack as well as a parallel and two serial ports.



Yamaha hopes this music computer will find its way into music stores and computer outlets alike.

The C1 comes with Yamaha's MIDI Monitor software, which lets you control the MIDI ports on the computer, and the Bulk Manager, which lets you store and retrieve bulk MIDI data. Yamaha also announced that its MIDI sequencing software is available for the C1. Many software developers who had developed music software for add-in boards on other computers also announced the availability of their editing and sampling software for the C1. Yamaha hopes that the computer and software will be available in music stores which currently sell Yamaha instruments and computer stores hoping to attract the music industry. (The C1 with two drives costs $2999; the model with the 20Mb hard disk costs $3999.)

Microsoft Makes OS/2 Available For Mach 20 Board

Despite currently weak demand for OS/2, Microsoft made it available for its Mach 20 add-in board for the PC. The Mach 20, like the add-in boards from numerous manufacturers, allows an 8088- or 8086-

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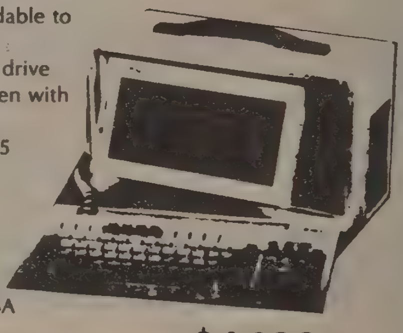

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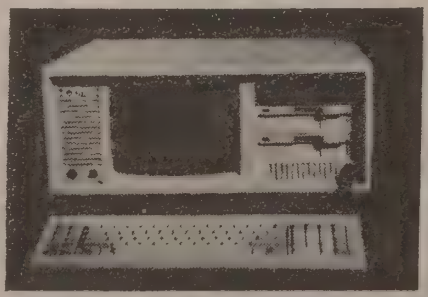

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NEWS
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based PC to run software that requires an 80286.

By making OS/2 available for the Mach 20 board, Microsoft hopes that users of the board will move to OS/2. However, since OS/2 requires much more memory than can be used in a PC, OS/2 users will have to add memory with Microsoft's Mach 20 Memory Plus option, which is relatively expensive. The minimum memory requirement for OS/2 on the Mach 20 is 1.5Mb with 2Mb recommended, and much more necessary for most OS/2 programs.

Peter Norton Acquires Dan Bricklin's Demo II

Dan Bricklin's popular *Demo II* program, a program prototyping system, has been sold to Peter Norton Computing. Software Garden, Bricklin's company, sold all rights to the highly successful Norton company so that it could concentrate on future products. Norton will take over both the marketing and development of *Demo II.*

Many of Norton's best selling programs are to other software developers, where *Demo II* is already well entrenched. Bricklin was one of the founders of the microcomputer industry, having been a coauthor of *Visicalc* in the late 1970s. After the many ups and downs of running a large company, he founded Software Garden, which he insists will remain small. Norton has grown his company from a one-person operation to one of the largest utility companies in the PC business. Norton Computing, 213/319-2000.

Open Software Foundation Adds Six New Members

AT&T's potential rival in the UNIX market, the Open Software Foundation (OSF), added six new members to its roster with the addition of hardware and software manufacturers from around the world.

The new hardware manufacturers are Altos Computer Systems, Stratus Computer and Toshiba. Toshiba became one of the first Japanese members of OSF at a time when many people question whether OSF is courting the Japanese strongly enough. Other major Japanese UNIX vendors have so far stayed away from OSF, fearing that it is being too strongly led by IBM. The new OSF software manufacturers are Adobe, Mitre and Tecsiel of Italy.

OSF also recently announced that it would do no high-level research of its own, but that it would instead farm out research projects to major universities. This will hopefully prevent any one company from stalling a major research project, although many smaller companies who are not members feel that their membership fees will profit the larger companies more than the smaller ones. At this point, the lines are drawn with AT&T, Sun and Unisys on one side, OSF members on another, and the uncommitted companies in the middle.

Unisys Buys Convergent For Cash and Stock

Computer giant Unisys bought one of its major manufacturing partners, Convergent, Inc. in a move that will strengthen Unisys' micro- and minicomputer manufacturing and design capabilities. Convergent, well respected for its networking and high-performance microcomputers, will become a wholly-owned subsidiary.

In the joint announcement, Convergent chairman Paul Ely assured its OEM customers, many of whom are competitors of Unisys, that it will continue to supply them with the same computers and technologies that it has in the past. Ely also assured Convergent employees that the acquisition will not change the environment at Convergent and that the headquarters for the company would remain in San Jose, California.

The purchase caused some questions to be raised in the industry, especially with respect to how this would affect Unisys' line of microcomputers, mostly designed by Sperry (who merged with Burroughs to become Unisys). The announcement did not make clear whether the Convergent technologies would mostly be used for sale to other vendors, as Convergent does now, or would be also used in-house at Unisys. Before the buyout, Unisys was responsible for about 20% of Convergent's cash flow.

NCGA Calls For Computer Animation Contest Entries

The National Computer Graphics Association is seeking entries for its fourth annual computer animation competition, to be held at the next NCGA annual convention in April 1989, in Philadelphia; the deadline for submission is December 1.

The NCGA competition usually brings out the most unusual and powerful players in the computer animation field. The requirements are that the animation be produced between December 1, 1987 and December 1, 1988, and that the animation be produced only on a digital computer. The six categories

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of judging are: broadcast computer graphics, television commercials, corporate presentations, technology and computer graphics research, short films and videos and academic (student/faculty). The short films and video competition is usually the stiffest, with entries from most manufacturers as well as from the top professional animation companies.

The animation will be judged both on technical quality and creative use of computer graphics, and clips from the winning entries (as well as many of the runners-up) will be shown throughout the NCGA convention. For more information, contact NCGA at 2722 Merrilee Drive, Suite 200, Fairfax, VA, 22031; 800/225-6242.

Fujitsu To Sell Sun Products in Japan

The largest Japanese computer manufacturer, Fujitsu, has agreed to sell over a quarter of a billion dollars worth of Sun workstations and file servers in Japan over then next five years. The agreement allows Fujitsu to package the computers with its own label and to enhance them before sale. Sun expects that the agreement will account for more than 15,000 systems sold in the Japanese and other markets. The agreement covers Sun-3 and Sun-4 products, as well as future technologies. Fujitsu is already a major UNIX vendor in Japan, and feels that the addition of the Sun line will expand their market.

Microsoft Enters PC Electronic Mail Market

After first testing the Macintosh electronic mail market, Microsoft has decided to enter the PC communications market. Microsoft *Mail* for PCs allows any PCs connected to an AppleTalk network (such as those supported by Apple and TOPS) to send and receive electronic mail. The package can, of course, also transfer messages to and from Macintoshes on the network that use Microsoft's electronic mail package for the Mac. The new product will be able to transmit both text and files so that users can use it instead of remote access to each other's disks in a secure environment.

Apple Suit Judge Has Son Working At Hewlett-Packard

Apple has requested that its lawsuit against Microsoft and Hewlett-Packard be reassigned to a new judge after it found out that U.S. District Judge Robert Aguilar's son works for Hewlett-Packard. The discovery came during another case before the judge that involved Hewlett-Packard, in which the judge refused to remove himself from the case. Apple feels that the judge cannot be impartial with his son working for one of the defendants.

Even if the judge stays on the case, it will be a long time until the case is heard. The court clerk assigned the case to begin on August 14, 1989. Even though none of the parties in the case asked for a long discovery period, the closing date for discovery was set at April 3, 1989.

Macworld Expo Brings Out Macintosh and Apple News

The August Macworld Expo in Boston brought huge amounts of Macintosh publicity out of the woodwork during what is normally a very slow time in the computer industry. New products for the Macintosh were announced by many major vendors, and Apple kept its promise of no new Macintoshes, although it did announce a new configuration for the Mac II. Since the publicity mill got very crowded as the Macworld Expo approached, many vendors preannounced their products or, in some cases, waited until after the show. Among the announcements:

- Apple introduced the Apple Scanner for reading high-resolution images and text into the Mac. The full-page flatbed scanner and associated software can read images into picture files or directly into *HyperCard* stacks. The scanner, which costs $1799, joins similar products from many other companies in the Mac market. At the same time, Caere Corporation announced its *OmniPage* software that works with the Apple Scanner to read almost any type of text from any page. The software vastly reduces the limitations on reading from typeset material, according to the company. *OmniPage* has versions for both the Mac ($795) and IBM PC ($1995).
- Apple also announced a minor new configuration for the Mac II. The Macintosh II 4/40 comes with four megabytes of RAM and a 40 Mb hard disk, and has a list price of $7269. Apple also announced a 4-Mb memory expansion kit for the Mac II, costing $2399.
- General Computer (now called GCC Technologies) showed its lightweight WriteMove portable inkjet printer for the Macintosh. The WriteMove weighs only three pounds and is smaller than a

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notebook; it can easily fit inside of many Macintosh carrying cases. It can print at 192 dots per inch, making it higher resolution than the standard Apple ImageWriter, and it is significantly quieter than the ImageWriter. The printer uses GCC's high-resolution font and image printer driver, similar to the one in GCC's inexpensive Personal LaserPrinter. The WriteMove costs $699. GCC also announced a 150 Mb internal hard disk for the Mac II, and officially announced its name change to GCC Technologies.

•Shiva Corporation, known for its NetModem, which can be shared on an AppleTalk network, announced that the Cole Gilburne venture capital firm had bought a substantial part of the company. Cole Gilburne principal Nat Goldhaber, founder of TOPS (which he sold to Sun), will take a seat on the Shiva board. Cole Gilburne sees a large market for shared network devices and said that Shiva had the technology to create many new products in that market. Shiva also makes the NetSerial interface for attaching any serial device to an AppleTalk network.

•Also on the acquisition front, Dow Jones announced that it has bought 19% of Solutions, Inc., the manufacturer of *SmartScrap* and *The Clipper*. Dow Jones has been taking the microcomputer market more seriously in the last few years, and it has published some of the non-Macintosh software produced by Solutions.

•Aldus broke into the presentation market with *Persuasion*. *Persuasion* will compete with Microsoft's *PowerPoint* and Symantec's *MORE* packages in the rapidly-growing market for slide and presentation preparation packages.

Persuasion contains an outliner that lets you quickly convert the outline for a speech into a full set of color slides or overheads. It also contains a business charting and graphing package, as well as a slide layout and handout generator. *Persuasion* can even run the slide show on the screen for people who do not have the output devices for producing overheads or slides. It can import text and graphics from all major Macintosh applications.

•Microsoft continued its onslaught of new releases of Macintosh software by announcing Microsoft *Works* version 2 and *QuickBASIC* for the Macintosh. *Works*, the integrated word processor and spreadsheet which is currently one of the best-selling packages for the Mac, is substantially improved in version 2, which will be released in October. The new features include macros, an integrated spelling checker, basic drawing tools for embellishing documents, and a larger work area in the spreadsheet. *Works* will also fully support color on the Mac II and have a print preview capability. *QuickBASIC* is essentially an integration of Microsoft's BASIC interpreter and compiler packages. It is aimed at people who are developing programs and has a new interface to help manage program development. It also supports color and the 68881 coprocessor on the Mac II.

•Network Innovations, the shared database company purchased by Apple earlier this year, made the specifications to its CL/1 language available to the public. Software manufacturers who want to be compatible with CL1 data servers can now use the connectivity language to hook their applications together with other CL/1-compatible applications, even those running on different hardware. Apple intends CL/1 to be one of the major links between the Macintosh and DEC VAX computers.

Network Innovations also announced that it would work with database giant Oracle to market a CL/1 facility on Oracle for the Macintosh. Currently, Oracle is the major SQL database management system for the Mac, and adding CL/1 capabilities will allow users from other systems to access Oracle databases transparently.

•Oracle also announced a *HyperCard* interface for its database management system. The front end lets you access and update Oracle databases through any *HyperCard* stacks. A programmer can put SQL statements in a *HyperCard* stack and access data as if it were part of the stack.

•Claris announced a new computer-aided design package, *Claris CAD*. The $799 software is aimed at the upper end of the market (such as architects and drafters). The package will not ship until December.

•Acius quietly told *4th Dimension* users that the previously-announced revision of the database system, version 1.1, had been cancelled. The next major release of *4th Dimension* is not expected until the end of this year or early 1989, according to the company. *4th Dimension*, although flashier than its competitors, is significantly slower and less stable for programming, and many users had hoped to be able to get the revision at the Macworld Expo.

•Apple and DEC gave only a little more information to their developers about their much-heralded joint technology announcement. The companies said that toolkits for hooking Macintosh and VAX systems together will not be available for another year.

Many companies came away from the meeting frustrated over the long delay in finalizing the structure for the supported interchange of data, and said that many would produce their own products well before next year and have to later revise them to fit the standard. While Apple and DEC talked about "seamless integrated environments," many developers said that, in fact, very little had been decided since the announcement of the joint venture eight months ago. They were even more dismayed when Apple announced that electronic mail interchange would come more than a year from now. The long delays will probably help the current players in the market, but certainly will make it more difficult for Macintosh users to hook into their DEC systems.

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REALIZABLE FANTASIES • BY JIM WARREN

Painless Literacy, Self-Setting Clocks And Other Timely Inspirations

This provides more uncooked fodder for your mental microwave—projects to implement and concepts to cogitate.

Learning Reading Painlessly

Anne Herbert of Mill Valley has observed that if most folks learned to speak only in school, we might have numerous non-speakers. Instead, speech is learned in the context of seeing and hearing. Reading is best learned in the same context.

Therefore, Anne suggests: Subcaptioning selected television shows could provide valuable instruction in reading and written language. Word-for-word subcaptioning of properly-paced children's shows might allow painless, subliminal association of written words with their spoken form and their action contexts.

She adds that similar captioning could be equally valuable for adults learning a written language—including their native language. This might address this nation's appalling and dangerous level of illiteracy, and cost much less than, say, the Army's malfunctioning battle tank.

And, of course, such captioning would be useful for hearing-impaired television viewers who don't own a closed-caption decoder.

But, one request: Have subcaptioning as black text on solid-white background, or vice-versa—not simply characters overwriting whatever the video image is, which often merges text and background into illegible mush.

Self-Setting Clocks

It's time for electronic timers to set themselves and remain accurate—digital clocks, clock-radios, oven timers, etc.—and especially VCR timers. It's not really that hard and shouldn't be that expensive if mass-produced.

For years, Heathkit has offered a clock-in-a-kit that synchronizes itself using the National Bureau of Standards broadcast time signals. It retains accuracy to within 10 milliseconds of the Bureau's atomic clock (Heath kit GC-1000-H, but not cheap). For decades, radio and TV stations have kept their local and national programming in sync using such NBS ticks.

We no longer hand-crank our cars; we should no longer have to hand-set our clocks—particularly those that need accurate setting for tight synchronization with external events, such as television recorders.

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Jim Warren founded the West Coast Computer Faire, the Silicon Gulch Gazette *and* Infoworld *newspapers, Video Initiative, and the DataCast proposal for broadcast-based paperless electronic newspapers utilizing personal computers. He was the founding host of the PBS* Computer Chronicles *series, founding editor of* Dr. Dobb's Journal, *and founding president of the Microcomputer Industry Trade Association.*

Old War Story: Woz's CORE

Steve Wozniak's idea that became the CORE controller has a similar genealogy to the self-setting clock proposal. The CORE is a programmable wireless remote controller—with robust and obtuse programming that quickens the heart of any hardcore computer junkie. Its generality makes other programmable controllers look like brain-damaged toys.

If I correctly remember a Berkeley pizza conversation almost a decade ago: Woz was fed up with having to run around his student apartment resetting his dozen-plus digital clocks and appliances—particularly the programming of his VCRs—every time PG&E sneezed. He was also fed up with having numerous incompatible controllers, one for each wireless widgit.

Thus, he envisioned a single controller of generic format and robust power that could be taught the signals of many product-specific controllers. Now, self-resetting timers would complete Woz's desire for hands-off reprogramming. Let's do it!—for the Woz.

Economical H-P Softfonts

Though this column is primarily about projects not yet done, here is a fantasy finally realized: Someone is economically offering a massive collection of softfonts for downloadable Hewlett-Packard LaserJets. Digi-Fonts, Inc. now delivers eight typefaces for about $70; another 264 typefaces for about $350. Most importantly, the user can size every face from 3/72-inch to 10 inches (3 to 720 points), slant 'em, rotate 'em, flip 'em, reverse 'em and store 'em or download 'em, using a *FontMaker* program included with the basic eight! (3000 Youngfield #285, Lakewood, CO 80215; 800/242-5665).

Digi-Fonts is a family product—produced by Larry and Lisa McClure with oversight (insight?) provided by Bob McClure. Pappa Bob is one of the most competent and experienced computer pros and international consultants I know, with well over a decade's detailed experience in digital typography. Even more valuable—the whole family practices a level of reputability too rarely seen amongst microcomputing's clouds of vaporware.

Why, they even began delivering their product as soon as they announced it!

Digi-Fonts Prompts More Fantasies

Having a huge range of LaserJet fonts economically available incites additional product ideas. New and existing text editors, word processors and desktop publishers need the ability to use this massive font collection.

Also, thousands of antique, hardfont-only LaserJets need plug-in hardware to field-upgrade them to accept softfonts—Digi-Fonts and the previous high-priced spreads. Their Canon print engines work just fine, but the softfont support hardware is needed to allow these good ol' machines—arbitrarily obsoleted by H-P—to use downloadable fonts. (If I remember correctly, Tall Tree's J-Laser interface offers one excellent solution to this problem.)

We no longer hand-crank our cars; we should no longer have to hand-set our clocks—particularly those that need accurate setting for tight synchronization with external events, such as television recorders.

Utopia For Academics And Researchers

A. L. McClellan, a chemist from El Cerrito, poses a problem: Researchers and academicians must often deal with massive bibliographies that must be cross-referenced by title and by author. In some disciplines, there are often ten or twelve authors listed for each paper (an affliction of the publish-or-perish dictum). This is particularly true in the physical and life sciences.

McClellan illustrates the magnitude of the problem with a typical example of one of his current books. In it, he cited over 2,700 articles, having a total of more than 8,000 authors.

To create the dual indices with most word processors, the authors' numerous names must be typed twice—once with the title citation, and a second time for the author index. Of course, a separate database program can be used—if the author

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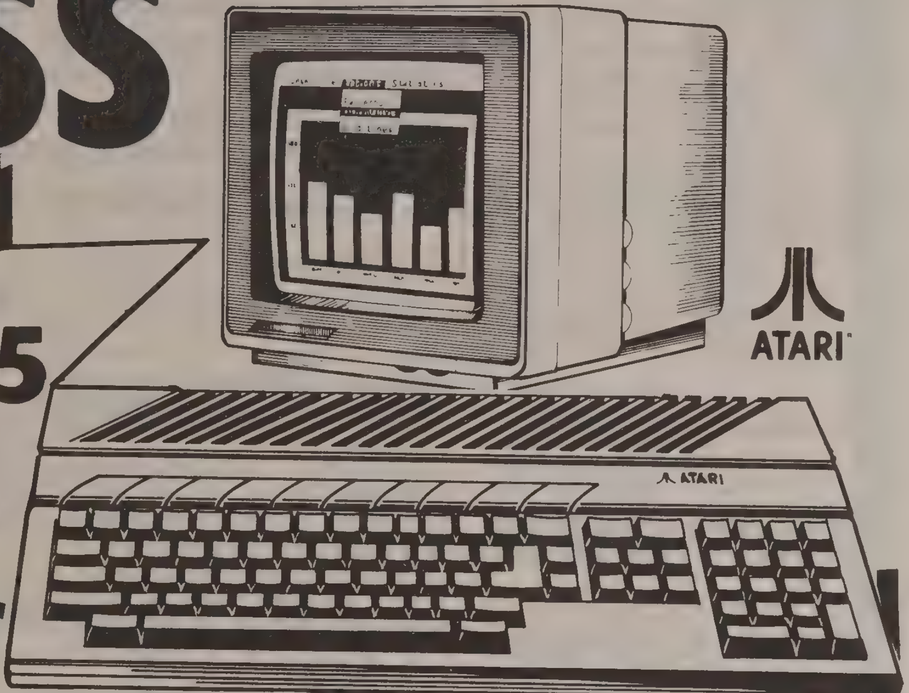

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. . . Long ago I dreamed of having the time and resources to produce the definitive source of no-hype microcomputing technical information. Well, to a large extent, it's finally here . . .

chooses to become a computer programmer as well as a scientific researcher and writer.

Seems like a word processor that could comfortably handle thousands of cross-indexed title and author references would be very well received, indeed.

Definitive Micro Info Achieved

Another fantasy achieved: Long ago, while editing *Dr. Dobb's Journal*, I dreamed of having the time and resources to produce the definitive source of no-hype microcomputing technical information. Well, to a large extent, it's finally here—an information source with technical accuracy and judgment that can be trusted.

Much less well known than it should be, it's a newsletter called the *Microprocessor Report*, edited by Michael Slater (550 California #320, Palo Alto, CA 94306; 415-494-2677). It ain't cheap, but it's worth much more than its subscription to microcomputing designers needing accurate information on which to base big-bucks design decisions.

Auto Motive Addendum

The last column outlined a possible standard for cruise controllers for cars. An additional note:

Dimmer switches should be on both the steering column and the floor. Hand dimming's nice for driving in a straight line, but foot dimming's safer and more convenient on twisting mountain roads when hands are constantly busy.

No Scuba Divers' BBS?

Is it really true that the million-plus scuba divers floating around the U.S. have no computer bulletin board system? With dive buddies always needed, dive site conditions changing daily, new dive trips always being scheduled, dive resort rates and options changing daily and endless used gear to be traded, the apparent lack of a Scuba BBS is really surprising—but I've found none listed in the several BBS directories I've checked. I'd be delighted to report the details that prove I'm wrong.

And while we're wondering: Is there a BBS that makes a serious effort to maintain a list of all the other ever-changing BBS's?

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To share tantalizing techno-thoughts, send them to Jim Warren, Realizable Fantasies, 345 Swett Road, Woodside, CA 94062. Attribution for published proposals is given their authors, unless anonymity is requested. ☐

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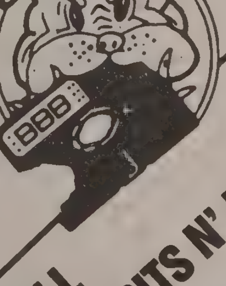

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INDUSTRY ISSUES • BY MARY EISENHART

Computers, Crime And The Constitution

In our July issue, contributing editor Brock Meeks wrote an eleventh-hour column in support of Assemblywoman Gwen Moore's ACA 36, which would have put on the November ballot an amendment to the California Constitution specifically extending Constitutional protections to electronic communications. The bill was under siege from the California Association of District Attorneys, whose sudden opposition to the bill Meeks attributed to the recent passage of a bill expanding wiretapping powers. "It's provided a certain smell of blood in the air," Meeks wrote, "and now they are going for the jugular; they want no Constitutional amendment that might, at some future date, prevent them from further increasing powers of the wiretap act."

After a good deal of last-minute political gamesmanship, attempts to rewrite the bill to address the concerns of the district attorneys, and lately-discovered objections from not just the CDAA but the occasional insurance company and credit bureau, ACA 36 died in the Senate Judiciary Committee without a vote. As Moore's consultant Bob Jacobson put it, "This is not the year for a Constitutional amendment in this area."

However, all parties to the issue agree that the legal ramifications of computer-based information, in the area of Constitutional protections among others, remain important and, to a considerable extent, undefined.

In response to Meeks's column, we received the following letter from Donald G. Ingraham, Alameda County Assistant District Attorney, contesting some of the column's statements and conclusions. Mr. Ingraham is generally regarded as the computer crime expert for the District Attorneys' Association, and we found his letter highly informative.

We called Mr. Ingraham and asked if he'd be willing to discuss the subject of computer law, particularly in the context of ACA 36 and similar legislation, more extensively. He graciously agreed, and the interview which follows his letter is the result.

The National Enquirer *format headline on Mr. Meeks'* Communications *column in your July issue was a real grabber, but I think it seriously distorts the problem posed by the proposed ACA 36. It certainly lacks objectivity and original sources and, as a long time reader, I respectfully offer the following in rebuttal.*

First, the factual background:

1. SB 1499 *will be the law as of January 1, 1989. It is the Presley-Felando-Eaves Wiretap Act of 1988 (1988 Laws, Chapter 111). It empowers the Presiding Judge of a Superior Court in California to authorize the interception of wire communications for a limited period, but only for the purpose of discovering evidence of significant drug dealing or the conspiracy to do so, where the unlawful substances concerned are in quantities greater than 10 gallons or 3 pounds, and only if the interception is requested by the personal oath or affirmation of the Attorney General, the Chief Assistant Attorney General, or the District Attorney, with full disclosure of the identity and reasoning of the applicant officer and a certificate of review by the chief of his or her agency. The process it establishes is far more detailed and demanding than for any other warrant, and the Legislature has required annual reports on all warrants issued under it. (I am enclosing a copy of the statute for you to review or reproduce as you wish).*

2. ACA 36 *is a proposal to amend the California Constitution by adding a line to language which establishes our right to be free from unreasonable search and seizure: "seizure and search," in California's terms.*

This right, like the IVth Amendment to the Constitution of the United States, is a limitation on the power of government. In California the equivalent "Declaration of Rights" is in the first article, where in the U.S. Constitution it was not added until two years later, as part of the Bill of Rights.

If it passes, California Constitution Article I section 13 will have the following bold face added:

Section 13: The right of the people to be secure in their persons, houses, papers, and effects, **including personal information contained in electronic information systems and computer data bases,** against unreasonable seizures and searches may not be violated; and a warrant may not issue except upon probable cause; supported by oath or affirmation, particularly describing the place to be searched and the persons and things to be seized.

(Caveat: this text is, of course, subject to change in the Legislative process. Anyone interested in facts as well as furor could find the current text in their local Law Library, most likely at the County Courthouse).

It will be noted by the observant that neither Constitution prohibits searches of persons, houses, papers, effects, or PCs: it simply prohibits unreasonable searches. And, as Mr. Meeks aptly notes, that is a matter of definition. The Constitution is interpreted and definitions are provided by our judicial system, and reviewed at length in a number of academic periodicals and published decisions. Any reader who takes Mr. Meeks' advice and calls a local DA for a definition of "freedom" or "unreasonable" will, I hope, be dealt with courteously, but firmly, and directed to the sources I have just cited. Your or our definition doesn't matter. That's the Court's job.

A brief pause: you now have the terms at issue, a guide to research, and a brief refresher on how our courts do their good work, admittedly on the level of High School Civics. The reader is free to stop at this point, but for those interested in seeing both sides of an issue, the following views of this Assistant D.A., being a computer user and having some experience in law and computers, might be of interest.

Why is the CDAA not supporting privacy in data? We are, and we were defending it eight years ago when many columnists were not. The CDAA is not opposed to your privacy; only to ACA 36.

Here's why:

First: Wouldn't ACA 36 establish privacy? ACA 36 would not establish absolute privacy in your data; at best, it would specifically recognize computer data as one of the aspects of privacy and property our law respects. On the assumption that laws, like programs, should have no unnecessary coding or language, the logical next question is whether your data is already recognized as deserving of legal protection. And, of course, it is. Every California or Federal case that has considered the issue has come to that result; no case has come to a different result. (It will be noticed that neither the U.S. nor California Constitutions specifically include "briefcase" or "automobile" or "hip pocket," but all are covered by "effects." No one in the field believes otherwise).

The courts are not supposed to be democratic. The courts are supposed to be a curb on people being democratic. Because democratic is lynching—"let's go get ahold of Larry Singleton and drive him out of town."

One of the ironies of Mr. Meeks' attack is that we DAs who eight years ago were urging a California Computer Crime Bill to protect data from thieves and diddlers were then labelled as gestapo types, and dire predictions were made that DAs would be checking everyone's computer to detect unauthorized access. The total inaccuracy of those seers could be testified to by anyone who has ever tried to get law enforcement assistance on a computer break-in or embezzlement or trade secret theft.

Today, concerned about the impact of ACA 36 on our ability to protect your property, we are lumped with the Soviets. Curious.

Second, even though we don't need ACA 36 to protect privacy, what could it hurt? It could hurt our ability to investigate crimes against your data, your system. Law is symbolically a two-sided affair: two scales, two sides to the sword. If your system is attacked, chances are that it will be attacked through another system. For law enforcement to investigate the crime and identify the person responsible, we have to be able to track down the computer, seize it, and search its log for evidence, just as if it were a gun, a drug laboratory, or any other instrument of a crime.

How could ACA 36 impede an investigation? Because it establishes computer and systems data as it does, as something other than "effect," it is likely that it will be urged as intending something

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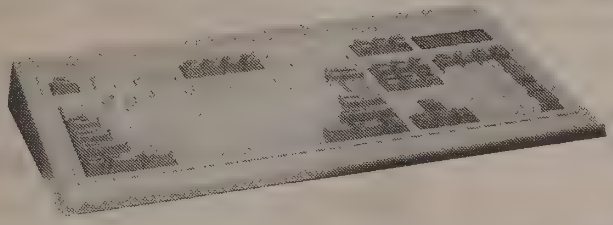

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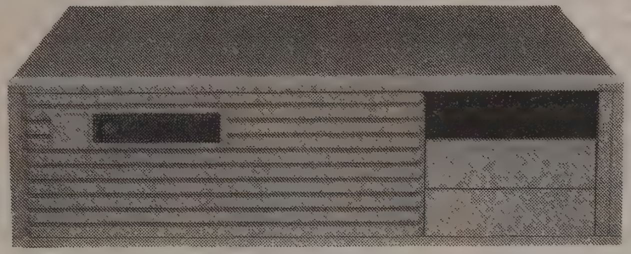

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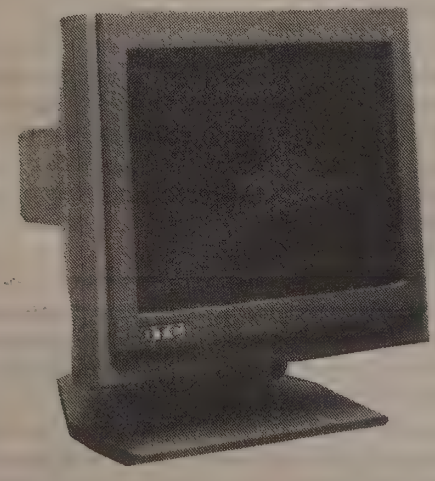

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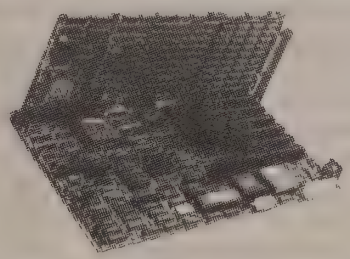

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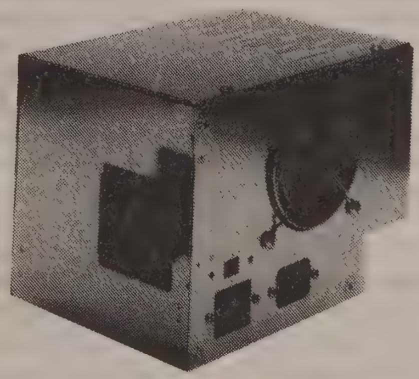

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different than was already there. Otherwise, why change it? It would probably be argued by the lawyers for the persons accused of the computer-related crime that the usual search warrant was not adequate, or the Constitution would not have been amended. (Contrary to popular paranoia, Judges and Legislators do try to meet the needs of the People; so do DAs.) What different rules would apply to these warrants are not in ACA 36 or anywhere else, so that if the Courts conclude that ACA 36 was not an idle act, and was intended to change the rules, the question what those rules are is being left to the Courts.

If ACA 36 were just another law, the problem would be less because there is ample Federal precedent to work from and follow. But it isn't. It is a Constitutional Amendment. The people of California decided in 1982 that they didn't want our Courts to have a free hand on "independent state grounds" to exclude evidence from trials, but wanted us to follow the law of the United States. That was Proposition 8 of that year, also a Constitutional Amendment. ACA 36, if enacted, would arguably override that uniformity insofar as data systems are concerned. The operative word here is "override": with what it would be replaced neither Assemblywoman Moore, Bob Jacobsen, John Coate, Brock Meeks nor I have any idea.

Mr. Meeks suggests that the CDAA has a "secret agenda." (If so, I assure you I didn't get a copy.) As he has introduced the question of unrevealed motives, perhaps he could address my question why, if particular recognition is needed, it has to be by sweeping Constitutional Amendment rather than by statute? There are existing statutes that give particular protection to records of health care providers, attorneys, the telephone companies, and financial institutions. Why go the costlier route of Constitutional amendment if this is purely cosmetic?

Third, I am concerned that at least some advocates of the proposal, of whom I take it Mr. Meeks is typical, are urging it not by presenting facts but by promoting fog and fear. In extended correspondence with Assemblywoman Moore's consultant, Bob Jacobson, I was impressed by his openness and willingness to discuss problems. A wholly professional attitude, with which one can disagree without disparagement and innuendo. Blather about "Sacramento insiders," DEA "roach" raids, and the extremely narrow drug dealer wiretap interception law neither enlighten nor explain, fun as it must be to write.

For example "mention 'roach' in a message and within 24 hours the DEA shows up at your doorstep ready to haul away your desktop . . . and . . . disks," p176. Get serious, Meeks. Nobody lawfully seizes anything without a search warrant, consent, or an emergency of life-threatening proportion. If your concern is over seizures outside the law, then obviously a law isn't going to stop them.

In conclusion, and on the subject of journalistic ethics, I think that the absolutist position that some data is wholly outside the reach of the judicial process or Legislative privilege should, in fairness, be credited to its source: a Colonel Oliver North, wasn't it?

Very truly yours,
Donald G. Ingraham
Assistant District Attorney

What's the nature of your objections to the late ACA 36?

As a lawyer, my general feeling is you don't change something if it isn't broken. You don't change the Constitution until there is a reason to do so. An example happened in 1974, when the people of California enacted a right of privacy as a Constitutional amendment. Article 1 section 1 of our Constitution. I was against it then—I'm not against privacy, but to say "from now on, judges, you can do things in the name of privacy" is to give judges a blank slate. What is "privacy?"

And right away we get arguments: whether or not an eight-year-old has a right to sex with an adult is a matter of "privacy." The government shouldn't intrude in it. Whether or not I want to use cocaine or shoot up or something is a matter of "privacy." Well, privacy has always been a concept we've had in our law since 1890 when Brandeis did a law review article (4 *Harvard Law Review* 193) on it, but to bring it out now means that there is now something new to play with in the courts. And I, as a DA, sit here and say, "Do we really need something else going on in the courts, unless there's a real reason for it?" I don't think we do. We're up to the gills now—we've got murderers, we've got drug dealers. Every time somebody turns around they want another law against something, and we're supposed to prosecute it. Do we need something else to take time in court? I don't think we do, unless there has been a situation where some right has been trampled on. For example: the last couple of years there has been recognition that children who were victims of sex abuse had a tendency not to want to testify into the grown-up-dominated world of the court. Now, since most child sexual abuse takes place out of the public eye, that really gives the defendant an edge over the person who's complaining about it, because they're a big grown-up and all the grown-ups are staring at the kid. So we went through laws that said the kid could have a parent, not a coach, but a parent or an adult figure with them to support them. That was a change in the law—the traditional law was no, only the witness could be there. But then there was a recognition that here is a particularly vulnerable kind of witness, and the option is either we give them some support or they aren't going to come into court at all, so we'll change the law.

But that was largely a matter of statute. The general concept was in the Constitution; the statute got specific. The idea of putting something in the Constitution and not being specific is just contrary to everything we ever heard about law or drawing or programming—you just don't put in things you don't need. You have to demonstrate the need, and address it specifically.

What do you feel is unspecific about the amendment as written?

Well, it says "the right of privacy extends to personal information contained in databases and electronic information systems." That was the final form of section 1. They had stopped amending article 13 of 1, which was the search and seizure article of California's Constitution, our equivalent to the federal Fourth Amendment.

I think there's a far greater risk of having your files trashed or being hacked in a devastating fashion, where the guy goes and rearranges something, than there is from the police.

Would that mean that the right of privacy, as it extends to personal information contained in databases and electronic information systems, is different from the right against unreasonable search and seizure? There is nothing in the Constitution that says the right of privacy applies to your purse, your car, your house, the things that we classify under unreasonable search and seizure. So to say that now there's a right of privacy in data suggests to me the possibility that such a right is somehow different from the right against unreasonable search and seizure. Otherwise it could have been put there or it could have been in a statute or something else. What is it that's different about it? This would dump us at that crossroad: there is something different. And as a lawyer—I was a defense lawyer for quite a few years—it is quite intellectually respectable and, I think, ethically required, for me, in defense of my client, to say that in this law the people of California intended to create a special protection for databases and electronic information systems. One more than they have in any written document, purse, medical record, you name it.

Now, what is that right? And that is where this amendment stops. I don't think it should stop there. And I've seen nothing that explains what it is they wanted to accomplish with this.

That's why I got bothered when he [Meeks] started talking about the blood frenzy [of DAs in the wake of the new wiretap law]. Wiretapping has been federally available for years, and the feds use it in California. It's not illegal in California. The rule was that district attorneys were not authorized to apply for it. Well, now in very limited circumstances, they can get it.

Could you explain what those circumstances are?

Basically, the subject has to be a heavy, heavy drug dealer, and it's got to be for a limited period, and it's got to be reported to the state legislature that we did it at all. We have to go to the judge beforehand to get the warrant, and we don't appoint the judges. And we have to go to the legislature afterwards and say what we did with it. And of course in the hearing

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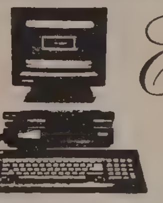

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itself the fact that the evidence was obtained by trace would come out.

Since probably few of your readers or yourself have ever applied for a search warrant, let me explain to you what's done. A search warrant, which is recognized in the Constitution, "and no warrant will issue but on probable cause" (IVth Amendment), sets up a procedure whereby we get hold of an affiant, a victim, for example, who will tell us what happened. And then we'll get a qualified police officer to tell us why that points to a crime and why in his opinion there is evidence of that crime at a certain site. We go to a judge. We run our reasons for wanting to invade that person's privacy for criminal prosecution past the judge. The judge then agrees or disagrees with us. If the judge disagrees, we have to go back and rewrite the warrant, and either submit it to that judge or some other judge. But if we go to another judge we have to tell that judge what the first judge didn't like. If the judge authorizes it, he writes a shopping list: this is where you can go and this is what you can pick up. And we go out and we get that which he ordered us to get. At that point it's a court order. And we return it to the custody of the judge. I write computer search warrants fairly often. And in those cases it's very narrowly circumscribed as to what we can grab and where we can look for it, as it should be.

Can you give me a concrete example?

Presently we are prosecuting in this office a group of fellows who got into transferring electronically coded strip values on transit tickets. We had reason to believe at some point that they were involved, and we have charged them. This was a year ago and we're still taking a look at the case with their attorneys. We've had several hearings on how the evidence was obtained and that to which the evidence points. And I can't give you too much about the case because it's still pending.

Is this the BART ticket case?

Basically it was BART tickets and red boxes for telephone company transmission. We had information, we ran it by a judge, the judge authorized issuing a warrant, we went out and seized property. Now we are in the business of taking a look at that which was seized and discussing with counsel what it points to. Ultimately there could be a motion by them to suppress the evidence for some flaw in the warrant, but I think we probably would win that.

But the court procedure is set up with all kinds of challenges all the way along the line. Other search warrants that we've done have largely been in the trade secret area. Ten years ago there was a fellow who worked for UCC, down in Palo Alto, and got on the computer and stole a proprietary program from a local house. We went down to Palo Alto under the warrant, and got back the stolen program, which was still on the original machine. And that again was a search warrant. We had a hearing whether the search warrant was precise enough. We've had a number of cases over the last couple of years which have involved trade secrets in developing software, or developing a computer application, where some guy has put all his money into it and somebody takes it and decides to market it on their own.

Well, we can't prove anything without evidence, and the only way we can get evidence of alleged theft via electronic access would be to search the place where the access was made from and see if we can find some clues there, either in the audit log or a tape or some record. In this particular case, the whole thing was printed out in his office labeled ISD Plotting, so it was a pretty simple clue. Even for a non-law enforcement type like me it was pretty blatant as to what the guy did, and he admitted it. The defense there was that it was okay, the ethic of the industry was that if you could steal it, it was not a trade secret. A Stanford professor testified that that was the prevailing ethic along the Peninsula ten years ago. I doubt if it still is.

Things have gotten a bit more commercial.

Well, people decided they'd like to get paid. The fact is, your paper has to accept advertising, we have to tax people to support me, it's that kind of world. Even Mother Teresa gets handouts.

So the idea that we would have to go through somebody to get a search warrant does not bother me as a big invasion of rights. It obviously bothers the person on whom we serve the warrant, and that's regrettable, but I don't know any other way you could be effective at law enforcement.

I have trouble projecting in this area because I don't know what it is they're trying to defend against, it's so vague. If there are particular things, like the WELL, or like a counseling service, like some sort of encoded thing that they want protected, then the proponents might want to consider what the lawyers and doctors have: a requirement under the law that a person called a special master be appointed by the judge to they supervise the service of the search warrant, so that I'm not running roughshod through anybody's office, and we don't have 300 cops with Hefty bags dumping everything in the bags. Say we were searching a lawyer's office for purposes of checking whether or not he'd stolen from somebody—we're going to be going through his drawers, pulling out his files. We're going to be looking in them. The special master looks at them first and says no, this is client information. That's confidential, you can't have that one. You can't have this one, you can't have that one.

And who is this person?

They're appointed by the judge who issues the warrant, from the Bar, from people who have volunteered for it.

So they're pretty nonpartisan.

They're supposed to be absolutely nonpartisan. It's like having a lawyer appointed to sit in at a lineup, a physical lineup. A lawyer will be appointed to sit there, to be sure we don't stack the lineup. Again, it's a pain in the neck, but I can understand the rights involved.

In fact, I would think if the search warrant we're talking about were for a doctor's records on a computer or a lawyer's records on a computer, the special master rule would definitely apply. You'd have to have a special master there for it. And as other professions or other concerns want to raise their points, that's quite possibly within the statute.

That's why it's hard to say I'm opposed to it—I'm not opposed to privacy in the computers at all. I have computers. We have a lot of them here. I'm all for privacy. But when you start putting it in the law, you're creating the possibility of problems and concerns that haven't really been talked out yet, and that's the value of what Assemblywoman Moore and Bob Jacobson did, they put this on the agenda. Now unfortunately most of the discussion has been like the stuff Jerry Pournelle was writing, "yeah, we ought to have this, it's a great thing, wow," but there hasn't been a whole heck of a lot of critical thinking on it: well, what does it mean? And that's what concerns me.

Everybody is conscious about intruding in areas of the imagination and property and intellectual ideas. That's what is keeping us alive, and that's something that's sacred. But you can't really expect us to protect those areas by denying us the tools that we are already using.

Suppose you get hacked. I assume you've got a personal computer—everybody who's reading this probably does. Suppose somebody gets on and begins terrorizing you. Or says, as happened in Los Angeles, that I will wipe out your database or I will kill your cat or something unless you put $500 and I'll tell you where. This has happened—I'm not making up science fiction. You get bothered by that, as you rightly should, and you come to us. You say somebody's ripping off my story, somebody like that guy who broke into the university computer several years ago and was erasing files. How did we find him? We put a trace on the phone, a pin register. We found out where the calls were coming from, with the cooperation of the phone company, and a court order, which they require. We had permission to find out where the calls were being placed from. We got a search warrant, we went out and seized the equipment we needed to prove that he was doing it.

Now suppose that this statute comes along and

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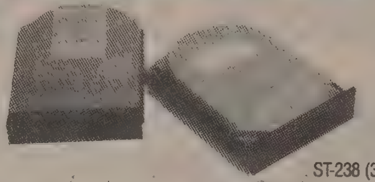

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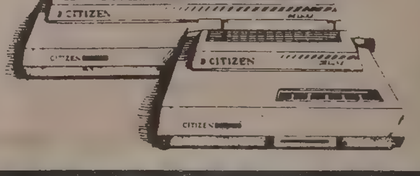

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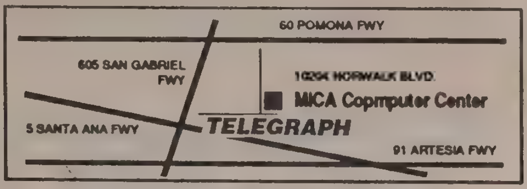

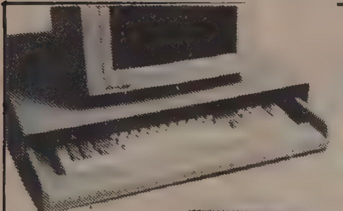

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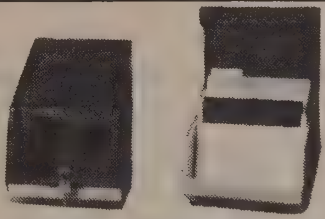

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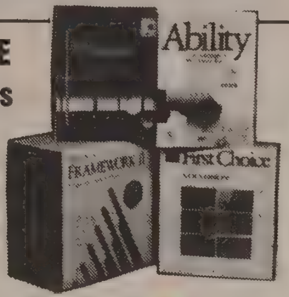

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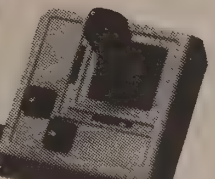

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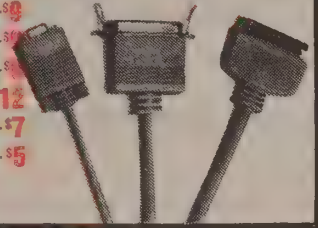

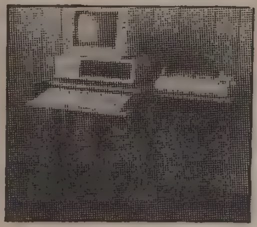

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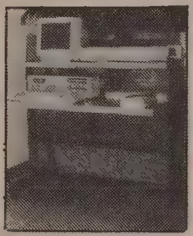

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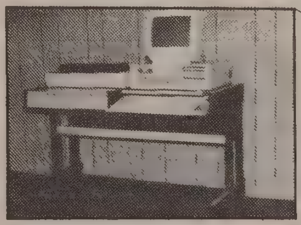

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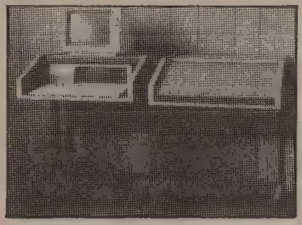

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says all that is highly private—not like other property, but more private. Will I have authority to protect your computer to get a search warrant to find out where it's being raided from? Right now, as we sit here, I can tell you, yes I can. I've done it, I can protect you under existing law. But if they change the law, they put in a new factor, then I can't represent to you that I can do it. I'll try it, because nobody's told me I can't. But I know now we're going to spend a couple of days in court and a lot of motions and a whole list of people coming and testifying who may take the position, "No, we can't do that any more. That's a special kind of privacy, and I need a special master to do it legally." And it has to be understood, I think, that if we don't get a search warrant correctly, then that which it produces is not available for evidence, and anything that what we seize leads to, for example the description of where they buried Jimmy Hoffa, isn't available. We dig up the body, we can't use what we find. So this is kind of serious stuff, and all we're asking for is let us know the rules before we get into it. If we have a victim we're trying to help, and all of a sudden you change the rules on us, what do we go back and tell the victim? We tell them, oh, the system's irrational and nobody's concerned about victim rights? That's not fair either.

I have to admit I'm not nuts about the whole adversarial system. There's a whole lot of wasted motion built in.

Oh, no question, but you've got to understand, it's not designed for truth. I see it as mainly concerned with being fair, which is a hard thing to do. Any other system, you've got to give so much power to somebody—I'm now at the age where friends of mine are in fairly high government positions, and an awful lot of them are wholly incompetent. It scares me to think that people like that are running the country.

The courts are not supposed to be democratic. The courts are supposed to be a curb on people being democratic. Because democratic is lynching—"let's go get ahold of Larry Singleton and drive him out of town." "Let's get Meese out of his job because—well, so far they haven't laid a glove on him, but he's just an unpleasant fellow." That's a political decision, but I don't like it in the law courts.

And that's what worries me here. When you put a law in like this, I have no idea what's going to happen. And I like courts to be somewhat predictable, down to the area where you and I are going to argue over what goes on, we're going to get twelve citizens and run it by them, and they can decide the facts. That I understand.

But when you're going to leave it to somebody you didn't vote for, I didn't vote for, they just got appointed, to suddenly make up a new law, which will provide a lot of employment for deserving law clerks to write briefs about it for the next three or four years—that is not a good way to run as important a business as electronic communication and computer technology in the state. It's too important to fool around with like that.

My personal feeling about it, speaking totally as a non-lawyer, is that it's something of a crapshoot what happens to you in court. The theory is great and it doesn't always happen. A different jury and a different judge will produce a drastically different outcome of the same case. There are political factors and vendetta factors. There's the well-known jury-sympathy factor in insurance cases. There are all these capricious factors in there.

It's not an exact science.

No, it sure isn't. And that being so, a Constitutional amendment is a whole lot bigger fence around my rights than just a statute.

Well, I don't mind that, but what's it going to fence in and what's it going to fence out?

Well, what I'd like to see is that nobody reads my stuff on the WELL without my permission, nobody reads my mailbox, nobody reads my computer stuff at home. . .

The way the WELL works, do you know what's on it? It's a bulletin board, isn't it?

It's a conferencing system, but everybody also has a private file area for storage.

Well, right now there is no way, short of a search warrant, that I could get into your private files. But if I subscribe to the WELL, I could read everything you had out for public discussion, just like on a bulletin board. That is the law now.

Could you, as the result of something I said in a public discussion, get a warrant to search my private files?

If in public discussion you said, "I have presently in my possession an annotated list showing the whereabouts of every kidnapped child for the last six months"—I'm thinking out loud—I really don't think that that would be sufficient.

One of the cases was with a guy who said. "Eat the rich." I don't see how anybody reasonably, even in Orange County, is going to go out with a search warrant on that. If we found a lot of nibbled rich people lying around, then there might be a pattern to that. But I just don't see. . .

It's fun to fantasize that the police could be that overbearing, and occasionally there are federal authorities that prove these things can happen. I think there are some DAs that will go off. But I think that's a risk we run. I think there's a far greater risk of having your files trashed or being hacked in a devastating fashion, where the guy goes and rearranges something, than there is from the police.

One of the problems I have with the mindset of the ACLU is that the greatest threat, in their formulation, to the enjoyment of our society and our liberties and all that, is the police. I don't share that. From my standpoint—and I realize that I'm white and I'm 50 and I'm a Cubmaster and I've got all these good Norman Rockwell credentials—I'm not afraid of the police. While the ACLU has a valuable role to play in being the gadfly, in my opinion there are an awful lot of legislators who lose sight of the fact that these things are not the major problem. The Bill of Rights is a curb on government, but it doesn't have to take the place of government. Nobody calls for the ACLU if they're being mugged. There are real problems out there, and we have to have the authority to confront them. And we can't always run it through an Assembly committee before we act, because there'll be nothing left.

The question really is, and it's a democratic decision, do you want us to be effective at protecting you, or do you want to be primarily concerned about the invasion of rights? The interesting thing is, procedurally, the invasion of rights is the first question. When we go to court, I grant that you've been monumentally inconvenienced by being arrested and having to post bail, but when it gets down to the question of guilt or innocence, the first question, according to our procedure, is "did the police overstep their lawful authority?" And if that's resolved yes, they did, it ends. Under our system, if we lose the search and seizure motions, the hearings under Penal Code 1538.5, that's the end of the case.

We turn down probably one to three percent of the arrests in the firearms area because of illegal search and seizure. They stopped the car with no reason and they did see a gun inside. Now the fact is the guy did have a gun, but we don't even get to that fact under our process until we establish that there was probable cause for the police to stop the car and look in it. Which is a pretty good safeguard. If the judge decides in our favor, the defense can appeal it all the way up. We don't get to appeal, but they do.

It's really a fairly well-balanced system. I can't think of a fairer one that could function. Again, to me the threat is not the police, the threat is people doing things the police get called to handle.

Certainly in the computer area, if anybody, any of your readers or yourself, ever had a computer-related crime or even a harassing phone call, I would be surprised if they said they went down to the police department and three guys jumped up and volunteered to handle the case, and right away there was satisfactory action. I'm not knocking the police when I say that, but resources are such that high tech crime is just very hard for us to handle.

Because you've probably got one or two specialists.

. . Yeah. We've got me. And maybe two other attorneys that are fairly familiar with it. We've got two inspectors that are familiar with it. We have 140 attorneys, and out of that three of us have handled, at one time or another, computer-related crime. And we're one of the more active offices in the country. There's probably 20 people in the whole country. And if you're lucky enough to get one of them in, that's fine. Back when the original 502, California's computer crime law, came through, there was a great deal of fear in the literature like *Dr. Dobb's Journal*. We got into arguments there writing about it, and the fear was, okay, you start saying that unauthorized use of a computer is a crime and you're going to have the police sitting right next to your computer finding out who's authorized and who isn't.

That hasn't happened. Realistically, it's not going to happen. It's just like saying, "Should not paying for stolen library books be a crime?" We got into that at the county law library, because it's a tremendous expense to people. There are not too many policemen that really want to spend their time out looking for stolen library books, because they've got stolen kids to look for. Everybody is conscious about intruding in areas of the imagination and property and intellectual ideas. That's what is keeping us alive, and that's something that's sacred. But you can't really expect us to protect those areas by denying us the tools that we are already using to protect those areas.

And that's the problem that I get back to with this ACA 36. I don't know what it's supposed to accomplish. If all it is is to write something into the

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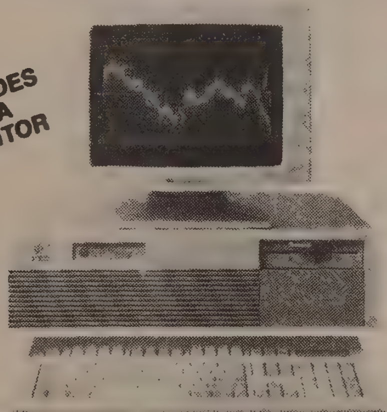

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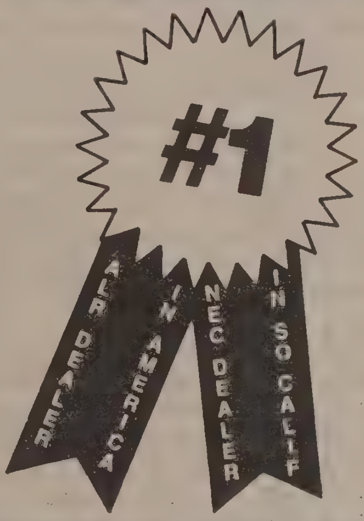

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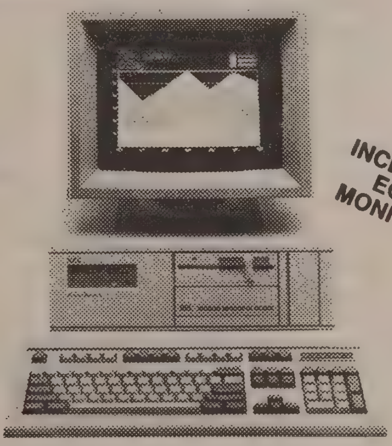

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Constitution, then we don't need it. If it is to correct something that a particular court case has come along and said—for example, several years ago there was a court decision, *Ballard*, that said that any victim of a sex offense could be forced to undergo a psychiatric evaluation. This was widely thought of by the ACLU at the time and by the defense Bar—yeah, why not? The National Organization for Women, the Bay Area Women Against Rape, some prestigious, solid groups, got up there and convinced the legislature that this was terrible. Where the hell is the authority that a woman is more likely to complain of being raped than she is of having her purse snatched or a merchant of being embezzled? Why are they subjected to psychiatrists. . .

Singling out a particular class of victim. . .

Exactly. So there's a statute, Penal Code 1112—not a Constitutional amendment but a statute—that said, "Hey judges, no. You can't order that any more." That's what I'd like to see. I don't want to see anybody harassed, but before we start tampering with the law, particularly the fundamental law against which other laws are measured, our Constitution, let's see where the abuse was that this is supposed to correct. And I spent a lot of time going through the federal cases, talking to guys in other states, going through every California case, and I have no case where any court, ever, has treated computer stored data any differently from any other storage system. If I'm wrong, and I could be—there's an awful lot of decisions, we've got volumes and volumes and volumes of them here—no one's corrected me. That issue hasn't come up. The courts haven't said it.

The FBI has done courses on this, and they say the same thing I'm saying, and they've got cases that say so. I've cited cases that say so. Nobody said any different. So the only thing I can come down to is the possibility that Assemblywoman Moore, in all good faith, has listened to some constituents, and the constituents say, "We'd feel a lot better and a lot more sure with this in the law." And what I'd like somehow to do is to get in touch with these people and find out what it is that's bothering them.

So what do the DAs want to see in this area?

There's an awful lot of DAs, and they cover the whole spectrum. Some of them are politically ambitious, some of us aren't. I'm sure there are some DAs who are looking for the day when they have a no-knock warrant, which is illegal, and they can go into other people's private files without court orders, and there are some DAs who want to be president, and some of them probably want to nuke Colombia. Everybody's got a secret agenda somewhere along the line. The idea that this is a real political movement—if it is so, nobody's told me, and I've been at it for twenty years.

I don't know what the concern is. I respect the fact that there is a concern, and it's a legitimate concern, because any concern is legitimate. But I think there might be some way of addressing it in a less draconian measure than putting something in the law that's a loose gun on the deck. What does it mean? What are we supposed to do now? We don't know.

So what would you like to see in a law in this area?

I'd like to see nothing change in the law in this area until we've had a chance to come to grips with some real problems and deal with it from an area of practical experience. If there is a need for the law, and I don't see it, then there must be somewhere in someone's understanding, a situation that cries out for correction, and that is what the legislature can do. When we got the computer crime law passed, it was in the wake of a case in Berkeley where a student had broken into the University of California's computer, and he was extorting his own space on the main processor. Well, in the process of doing so, he didn't know what he was doing, and he erased quite a few people's work. I don't know that he really cared about that—he said, "Ha ha, you can't catch me. I'll get out if you give me my own space." And of course we picked him up.

We used that story in arguing to the legislature. All we could get him for in those days was the commercial value of the time taken from the university computer, and they were billing at the rate of two bucks an hour, five bucks an hour, because they were trying to encourage people to use it. The problem was that to get a felony out of what this guy had done, we would have had to have had over $400 worth of computer time, and we didn't have that.

It would be as if in a burglary area, where somebody breaks into your house, we could only charge on the rental value for the time he was there. The outrage was the fact that he breaks into your privacy. Computer privacy was really what Penal Code 502 recognized, and the new amendments do the same thing, the Davis bill (enacted January 1, 1988). That people who interfere with your access, which the old bill didn't cover but the new bill does, are committing a crime against you. They're denying you something you have a right to have. In effect, it's false imprisonment. You have a right to go wherever your mind can take you, and no one has the right to stop you. That's now a crime here. This is an affirmative statement by law enforcement, by the legislature, that we want you to use [the technology]. Again, that's a statute, not a Constitutional amendment.

So I think our credentials, not being here to suppress the use of the technology or to stifle dissent, but to make sure that it can be done in a fair environment, are pretty unimpeachable. I think the record of this office is not against people using computers for any purpose they want to use them for, on the same grounds that you can use anything else. I think that would continue to be our position—we use them all the time. Law enforcement has its own bulletin boards.

It has the potential for some special wonderful relationships, our ability to communicate immediately. Anything that expands the frontier of freedom and our choice and our ability to communicate with each other is a fantastic thing to get in on. It has with it one risk, which telephones and other technologies didn't have, which is anonymity. It's possible for people to go on and do harassing calls, pretend to be somebody else, commit fraud. I was at a conference where the question was the digital signature—when will the courts accept digital signatures? Because there's an awful lot of technology now, and the courts are slowing down again because we want something on a piece of paper that somebody can look at and say that was signed by them. It's a pain in the neck. But you get a little bit nervous in the kind of work I'm in if we don't have something where you eventually get to look at it and say that's not my signature. What do we do with the guy that kites the checks, what do we do with the person who gets your access code and puts it on things? At some point you've got to be able to go on the stand and say, "That's not mine, I'm not going to pay the bill." And I don't know how we get around that. But as long as there are evil people, and that means as long as there are people, because everybody's got potential for evil and some make a career of it, you're going to have to have some authority for the police to investigate crimes, unless we say that there are some people who cannot have crimes committed against them.

I'd like to see nothing change in the law in this area until we've had a chance to come to grips with some real problems and deal with it from an area of practical experience.

California did that for quite a while in our racist days. It was the law here that white people could not be convicted on the word of Chinese or blacks. And that lasted here almost to the turn of the century. One of the cases that turned it around was where a Chinese guy and a white guy were carrying the miners' payroll, and they were stuck up by a white guy who killed the other white guy. The Chinese guy could make an eyewitness identification, and the police said, "Yeah, the guy's guilty, we know that, but he can't be convicted on your testimony." So he walks. And this is nonsense.

Well, in effect we'd be saying to the public, to the victims, yes, there was a ripoff, there was a robbery, the whole work of this individual was destroyed, but we're going to say that the destroyer, because of the way the police got the evidence, though they didn't know it beforehand, is able to walk off scot free and whistling because we have later decided that what the police did was not legitimate. All we're asking is that the rules be known beforehand, and we'll follow them. But if they're made up after the fact, then we're feeling cheated, the police certainly are, I certainly think the victim has been deprived of justice, and we haven't accomplished anything. ☐

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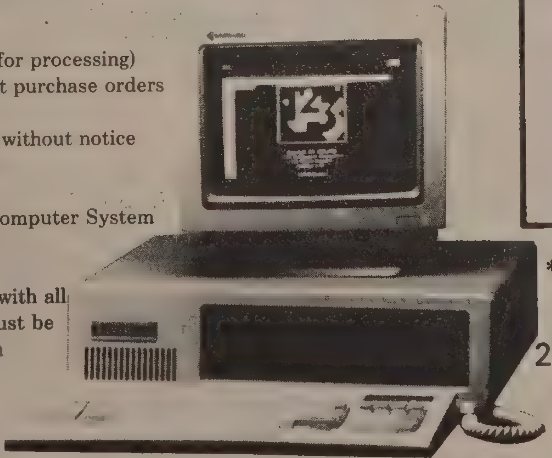

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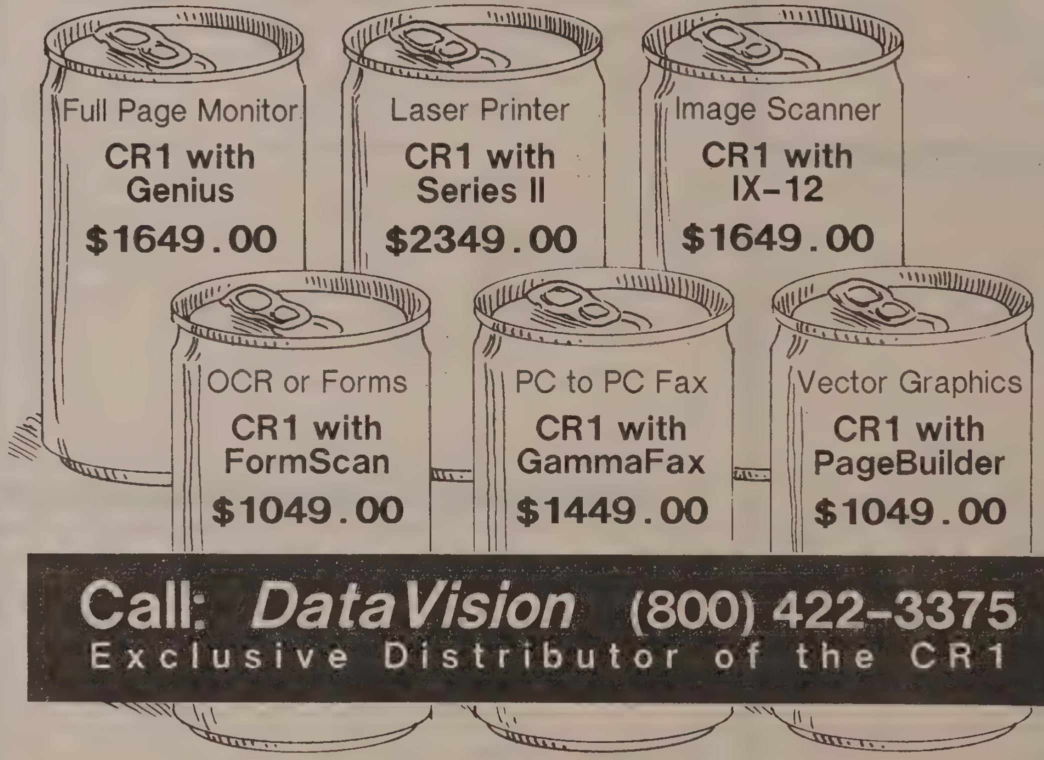

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8	7	dBFast
4	8	Turbo C
7	9	Turbo Pascal
12	10	Quattro
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10	12	SideKick Plus
–	13	Timeslips
15	14	Org Plus
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3	2	Direct Access
4	3	PC Tools
5	4	Fastback Plus
6	5	LapLink Plus
–	6	Norton Commander 2.0
2	7	XTree Professional
8	8	Disk Optimizer
9	9	SeeMORE
11	10	Norton Utilities 4.0
10	11	Sideways
12	12	Print Q
13	13	Q Dos II
14	14	COREfast
–	15	Automenu

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1	1	Suitcase
5	2	Canvas
2	3	SuperPaint
4	4	QuicKeys
3	5	Beyond Dark Castle
–	6	Super Glue
–	7	SilverServer
–	8	Tempo II
6	9	CompuServe Navigator
–	10	Wet Paint
7	11	WordPerfect
8	12	Word Finder
15	13	Stepping Out II
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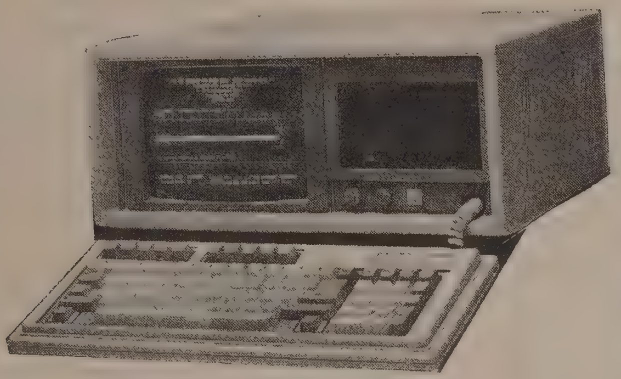

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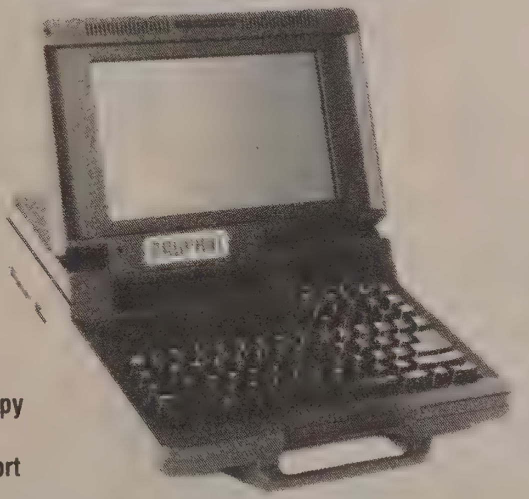

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Les Crane's Software Boutique

GOLDEN OLDIES
VOLUME I

Erstwhile talk show host Les Crane now enjoys success with The Software Toolworks.

Games and Tutors For Fun And Profit

By Mike Markowitz

Television aficionados from the '60s may remember Les Crane's short-lived late-night talk show which was distinguished by a confrontational style, controversial guests and a failure to unseat Johnny Carson. His radio talk show fared somewhat better, and his recording of "Desiderata" was the forerunner of an entire genre of New Age cosmic-muffinism.

Unlikely as these beginnings might seem to the casual observer, Les Crane is now chairman of The Software Toolworks, based in Sherman Oaks and purveyors of such products as *Software Golden Oldies, Chessmaster 2000* (which won the Software Publishers Association's award for best entertainment program in 1987) and a revolutionary typing tutor, *Mavis Beacon Teaches Typing.*

And, as software publishers struggle to outdo each other in the corporate business area, Crane's company enjoys success in the much-scorned home and educational markets. Which is fine with Crane, who envisions no change in The Software Toolworks' strategy.

The biggest trend in personal computing in the last couple of years is that it's gotten more boring and more business-oriented .... Do you think the market for entertainment software is going to dry up as things get more and more boring?

Oh no. I don't think the market for entertainment software is softening or will at all. If people present to the marketplace provocative programs that are challenging so they can be played many, many times, I think there will be a consistent and huge market in entertainment software.

We are diversifying in our company. We started as primarily an entertainment software operation — but two out of the next three products are business-oriented, and the last product was education-oriented, although it does have some game features in it, for diversion; *Twist And Shout* (another Software Toolworks release) is a very exciting sideways printing utility; it also has a banner printer and a print spooler. *Secretary Bird* is an integrated word processor with a spell checker, a filer and a spreadsheet. The third of our new entries is a game called *Life And Death,* which is going to stand the market on its ear.

Isn't the description of *Mavis Beacon* as an "artificial intelligence" a bit of marketing hype? There's a famous definition of AI as "anything computers don't do well yet..."

Artificial intelligence to me means a program that has an ability to *learn. Mavis* definitely does that. *Mavis* analyzes carefully everything that the student is doing within an individual lesson, and then lesson-to-lesson, and based upon her experience of the student, she creates the future lessons. Taking into account such factors as the student's attention span, even, the length of time the student spends with the lesson, the particular keys the student misses, the way the mistakes are made, transpositions, rows, the strengths of various fingers, some fingers working more quickly than others, and so on. Based on this tremendous database that she compiles on the student's activities and progress, both current and past, she begins to construct lessons designed specifically to meet the student's needs. If that isn't an intelligent system, or an expert system, then I don't know how you would define it.

Do you see other applications for that technology?

Certainly there's an artificial intelligence working in *Chessmaster 2000,* and we are constantly honing the algorithm for that product. We think the synergy that comes from working on both the typing teacher and the chess program is going to

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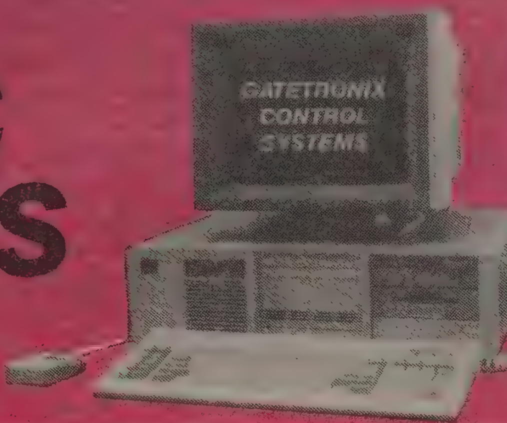

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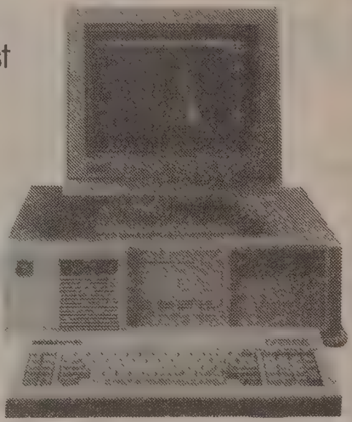

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The examples I was thinking of are language learning and music learning...

Absolutely. Language is an area in which we are particularly interested. We are working on several bilingual versions of our products, and we think the next step from there would be the teaching of language via computer, and we're exploring that with part of our research effort.

One thing that struck me is the number of different computers you're supporting with your product line. My impression is that in two years there's going to be the IBM PC standard, the Macintosh standard, and a lot of little marginal junk that nobody pays attention to...

Well, I don't think it's fair to call the Amiga and the Atari ST junk. They might have been a mistaken area to pursue, given the economic conditions in the marketplace today. They are certainly *wonderful* machines. I may agree with you — they may not survive. But the Apple II, and especially the Apple IIGS, is going to be around for a long time.

What makes you bullish about the IIGS? It's shipped about a quarter of a million units, while there's an installed base of over four million Apple IIs and compatibles.

I think that just the life of the hardware is going to keep the software market viable. It's just a hardy piece of hardware, and we're going to be living with that for years.

Did you feel that you were going out on a limb with a product like *Mavis*, or did you know from the beginning that it was going to be a winner?

You never know. We bet the store on *Chessmaster*, and we invested a major portion of *that* in *Mavis*, but we had a gut feeling that the market was ready, the niche was open, and an attack was ready to be mounted.

Have you gotten to play with the (IBM) PS/2s yet?

No...we're still having a lot of fun with MS-DOS.

You're the first person that I've ever heard use the words "MS-DOS" and "fun" in the same sentence!

Well, it's fun because it's a challenge. We're very proud of what *Mavis* looks like on the clones. We're very proud of what *Chessmaster* looks like on those machines. So it's fun for us. Anything that's challenging is fun.

A lot of the products that come across my desk are junk. It's amazing to see the poor quality of documentation, the poor quality control in coding...Do you have any secret? How do you get excellence?

We are a boutique shop, we don't release a wide band of products. We just release one, two or perhaps three products a year, in all versions. And the company is managed by an obsessive-compulsive, who hires people of a similar stripe, so he makes sure that if it's not perfect, we don't ship it.

What games have you seen lately that you like?

The thing that I'm most excited about is our new game, which is called *Life And Death*. It's a surgical simulator. The user gets to do a couple of operations: a heart operation and an appendectomy. The graphics are extraordinary and the tension is excruciating. And the patient will either live or die, based on how you perform *all* the steps in a successful operation.

Did you actually consult wth surgeons in developing the program?

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A hawk. We don't copy protect our business software — the stuff that has to be installed on a hard drive. But everything else we have copy-protected and we will continue to copy-protect. And I do that as much to protect the user's investment as to protect ours. If somebody goes out and spends $40 or $50 for a piece of our software, by copy protecting it and keeping the number of bootlegs down, we're protecting that person's investment as well as our investment in research and development — I mean, pirated copies of software out there cheapen the value of the software, do they not? If the guy next door got it for nothing, then how much is yours worth?

We've priced our products *below* the prevailing market prices. *Chessmaster 2000* — ten dollars below the competition, and it's light-years better. We did the same with *Mavis Beacon*. In order for us to do that we have to capture our fair market share. Now, since the installed base of personal computers doesn't compare with the installed base of videocassette players or phonographs, we have to earn a fair return on our research and development dollars. If people are copying our software and seriously eroding our sales it's going to deny us the opportunity to keep pushing the frontiers of software. So I just think it's a necessity. ☐

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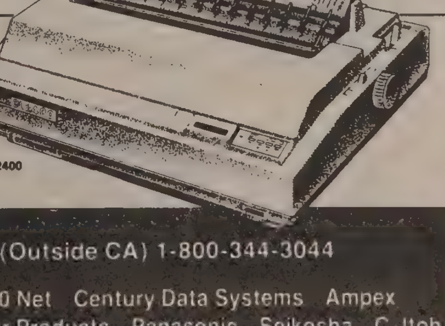

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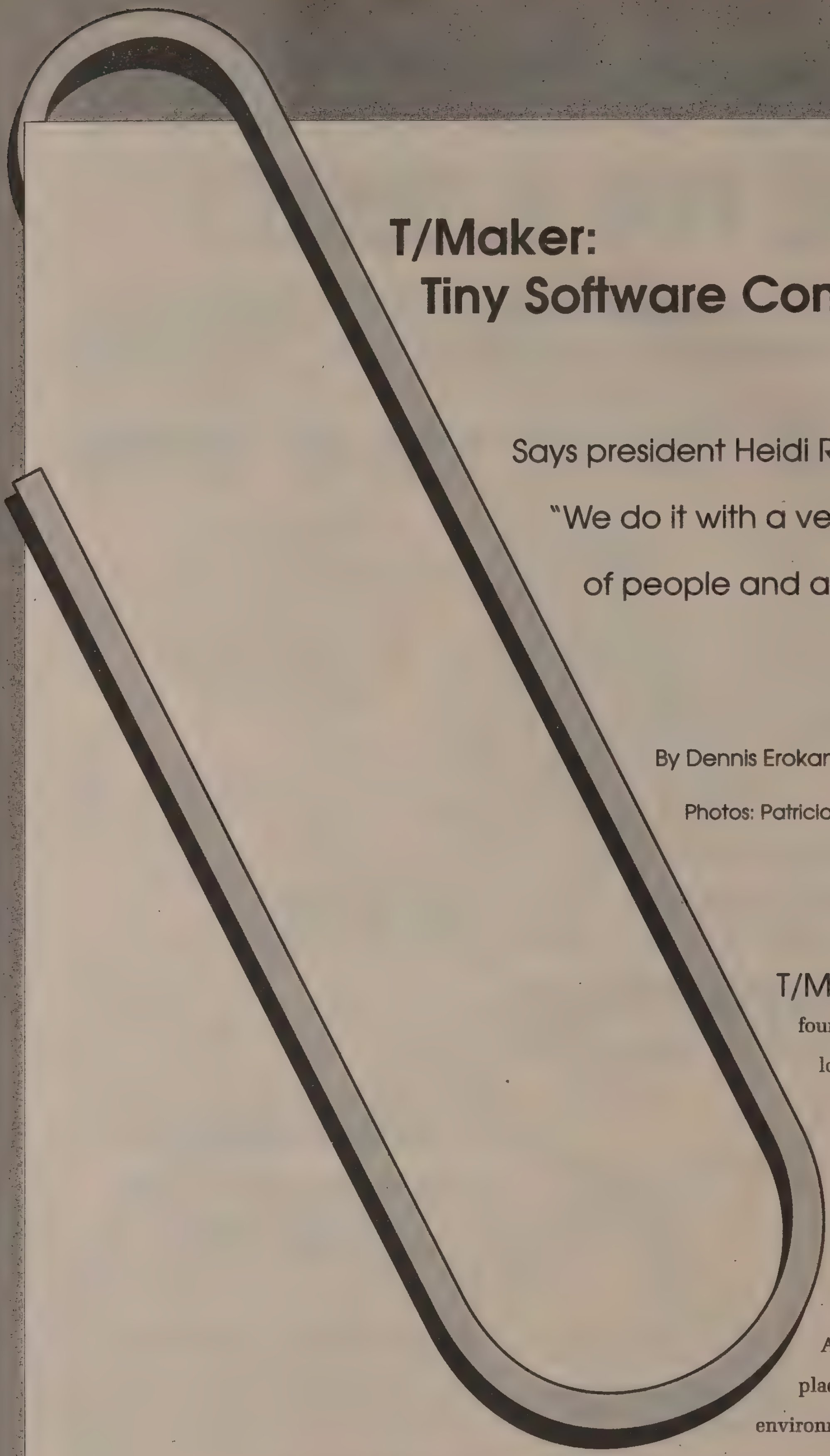


T/Maker: Tiny Software Company Takes On The Giants

Says president Heidi Roizen: "We do it with a very small number of people and a lot of mirrors."

By Dennis Erokan and Mary Eisenhart

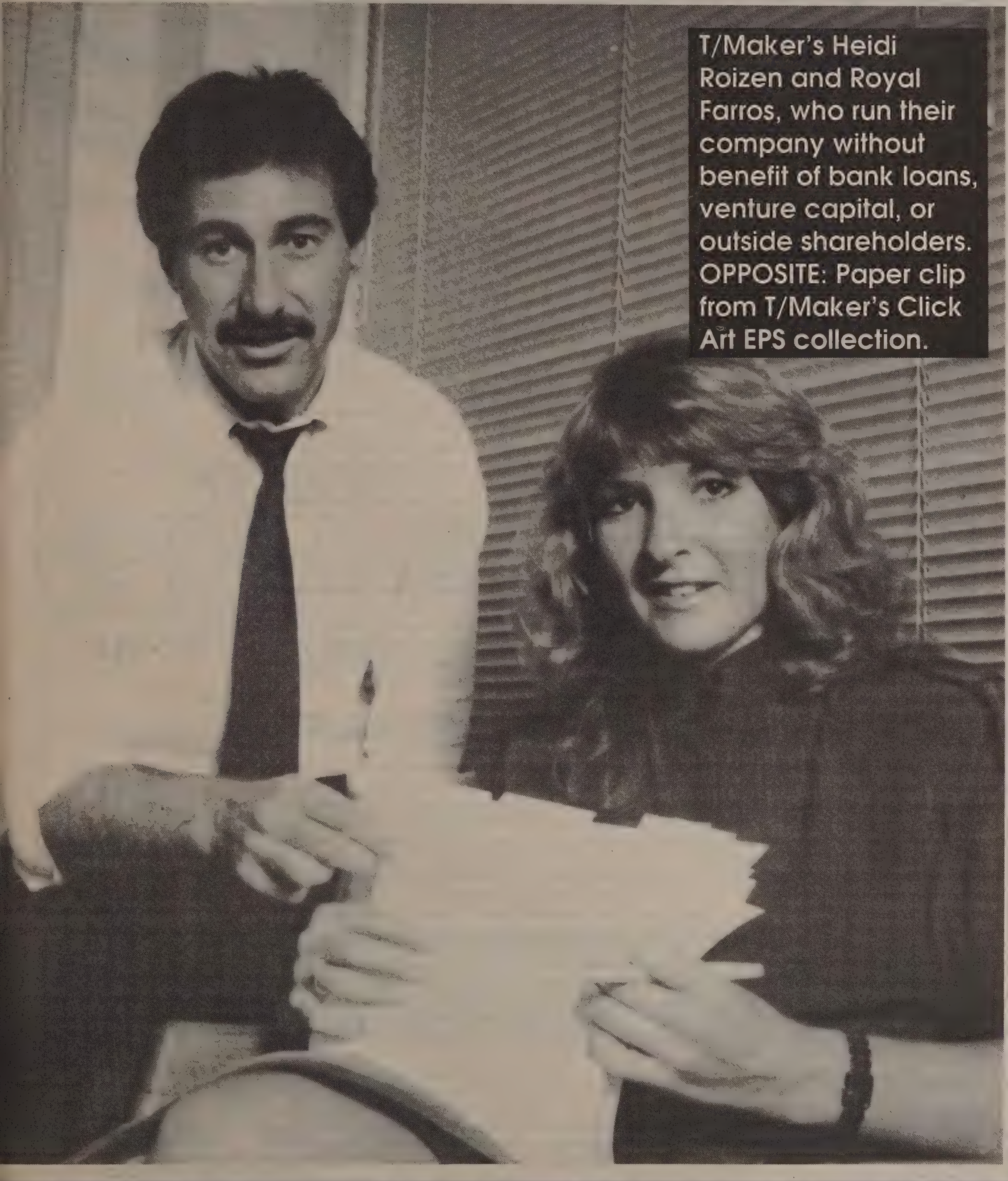
Photos: Patricia Leeds

T/Maker is a small company by anybody's standards, having hired its fourteenth employee only this year. Ninety-nine percent of its stock belongs to its 30-year-old president, Heidi Roizen, and 29-year-old VP/chairman Royal Farros, who first met as students at Stanford, where they received master's degrees in business and engineering respectively.

Despite its size, however, T/Maker enjoys a significant presence in both the Macintosh and PC markets—as reflected, perhaps, in the fact that Roizen is currently president of the Software Publishers' Association. Its *ClickArt* series has been a mainstay in the Mac marketplace since 1984; the *ClickArt* concept has moved to the PC and *Windows* environment, most recently with the debut of T/Maker's *ClickArt Scrapbook+*. *WriteNow*, the Macintosh word processor, which T/Maker publishes in connection with Steve Jobs's NeXT Inc., is now in its much-enhanced second version.

"[Microsoft's] Bill Gates," says Roizen, "says companies like us are like the little fish that dart in and out. We're the niche companies. We can accomplish things. We can grow by continually innovating because we have the authority to make decisions that the bigger companies don't have."

In an industry often beset by the problems of nearly uncontrolled growth, where the successful startup often collapses under the weight of its own expansion or is gobbled up by a monolithic corporation, T/Maker is an anomaly. Founded in 1979 by Roizen's brother and named after a database product he'd written (which the company still uses to handle its accounts), it was incorporated in 1983. Since the company has never had outside investors, bank loans or similar external pressures, Roizen and Farros are in the enviable and nearly unique position of controlling the evolution of T/Maker and its products.



T/Maker's Heidi Roizen and Royal Farros, who run their company without benefit of bank loans, venture capital, or outside shareholders. OPPOSITE: Paper clip from T/Maker's Click Art EPS collection.

So committed are they to this vision that, in contrast to the rest of the industry, T/Maker has twice sold successful products to other publishers rather than undertake the rapid expansion required to support them: *ClickArt Personal Publisher* (now *PFS: First Publisher*), the first desktop publishing package for the PC, to Software Publishing Company, and *ClickOn Worksheet*, a spreadsheet and graphics desk accessory for the Mac, to Borland as an enhancement for *Sidekick*.

"The two of us kind of drive the company," says Roizen. "We look at the market and look at the players and look at our own objectives as people—we want to be a quality place, we want to be in it for the long haul, we want to reward the people we work with. We want to work on projects that are personally exciting. We want to pick markets that have the characteristics that can be supported by a company like T/Maker, a small company as opposed to a company with massive banks of telephone operators waiting for your call.

"People perceive us, I think, as being a lot larger than we are—we have 14 people, which is the biggest we've ever been, but I think people think of us as being much larger. But we do it with a very small number of people and a lot of mirrors."

We visited T/Maker's Mountain View offices shortly before the Macworld Expo. In the midst of frenetic activity centered around the rollout of *Scrapbook+* and the final touches on *WriteNow* 2.0, Roizen and Farros discussed their company's history and future, and reflected on the particular problems and opportunities facing small vendors in the software marketplace.

How did T/Maker come into existence?

Heidi Roizen: We were founded in 1979 when my brother wrote a spreadsheet program. We used to support 182 different formats—TRS-DOS, Apple II with CP/M cards—and we used to sit here at midnight and make the disks for the orders for the next day.

We incorporated in '83. We didn't have any venture capital; we were just running off the sales of the product, which were about $200,000 at that time. We pretty much spent the first year learning how to run the business and making lots of mistakes.

It was right around the heyday of when Lotus was making its big splash, and so we thought we'd do 1/100 of what Lotus does and we could get 1/100 of the sales, and we could all be rich and happy. And it sort of didn't work that way.

Why didn't it work that way?

Well, I think that it was pretty much an all-or-nothing game. The people with presence got sales, and the people with no presence didn't get sales. So we had kind of this cult following; *T/Maker* is a really unusual product—it's very difficult to learn, I would say, but once you learn it you can do anything. It kept the company going.

Once we had the system in place, we realized that one product wasn't enough, and that it would be incrementally beneficial to add more products. That's when we started looking around to say "rather than be a developer who self-publishes, let's be a publisher who happens to have one self-developed product."

We came up with the idea for *ClickArt* in late '83. We saw a Mac, thought it was really neat, and brought one in here in January of '84, the week before it was introduced.

Everyone was playing with *MacPaint*, and everyone was pretty bad. Except one guy drew this really good picture of Chuck Yaeger.

Royal Farros: It was the first intelligent drawing we saw. Everything else looked like what the Mac used to be called—a sophisticated Etch-A-Sketch.

HR: So we decided that it would be a really good idea, when these things came out, to put together a collection of images. From the day we thought of it to the day we shipped it was eight weeks. Then once we started rolling on that, we continued with more Mac products.

We've noticed that Mac companies have a hard time breaking into the PC market. PC companies have a hard time breaking into the Mac market. So we're kind of uniquely positioned because we got started in the Mac so early and because we originally came from the PC market. We were a little more used to the idiosyncrasies of each market.

RF: That's one of the ways that we first got a shot at *Personal Publisher*—here was this developer, and he had this terrific idea for doing this painting environment on the PC that would be very Mac-ish. And he went to all of what he perceived as the big Macintosh publishers, and said, "I have this great Mac product I want to do in the PC market." And no one would touch it with a ten-foot pole. Everyone was frightened to compete in the PC marketplace, whereas when he approached us, we saw the value of it right away. Since we'd been in the PC market, that didn't scare us at all.

HR: It should have, but it didn't...(laughs)

RF: When we were first estimating the size of the market, we thought, "Jeez, if we could just sell 500 of these things a month, we'll be doing great." And when it came out the gate, we were selling 5,000 a month.

We worked with Hewlett-Packard in those days, and they had never seen their fonts onscreen; they never thought they needed screen equipment because the PC wasn't WYSIWYG. So they were just amazed by this, and they sent out a corporate message to all their sales centers: "This company T/Maker has a real live *PageMaker* competitor in the PC world that works with the LaserJet and the Vectra—have a sales seminar and get 'em in."

Well, in one month we were invited to something like 26 H-P seminars to be the keynote speaker.

HR: We pegged the market so well in that particular situation that we couldn't grow the company to the kind of adequate level that we wanted to and still control the product and do a good job with it. It needed printer drivers and other things to be done with it, and when you're a publisher that's more difficult to do, at least at the stage we were at.

It all goes back to our philosophy as a company, of what we really want to do. We look at ourselves as a value-added publisher, and we think we're unique in the business, because as I look around I don't see another company exactly pursuing the strategy we're pursuing in terms of turning products, as we did with *ClickOn Worksheet* to Borland or with *Personal Publisher*, which is now *First Publisher* at SPC.

We look at it this way—products have different characteristics that suit them to one type of publishing versus another. Sometimes we've taken on products and have built them to a level where their need for a company behind them exceeded our desire to grow the company.

So you would rather have control of the company than control of the products?

HR: Well, we like to have both. But our basic theory, first and foremost, is if you don't control your company, you don't control your destiny. Our sense was that we wanted to maintain the control. We're always re-evaluating this, but our current feeling is we'd like to grow without ever needing any outside investment. We have no debt, no venture capital, no outside investors and no outside shareholders.

We've taken on the concept of controlling your products more and more as a publisher. But the problem with having complete control is that you lose that creativity that brings the interesting products in in the first place. That's why we believe that there's a place for a niche publisher like ourselves—we're accessible enough, people can come in. We're close enough to the ground, because we're small, that we think we understand what kind of products will be the next wave.

We have the benefit of being in on

> Heidi Roizen: "Products have different characteristics that suit them to one type of publishing versus another. Sometimes we've taken on products and have built them to a level where their need for a company behind them exceeded our desire to grow the company."

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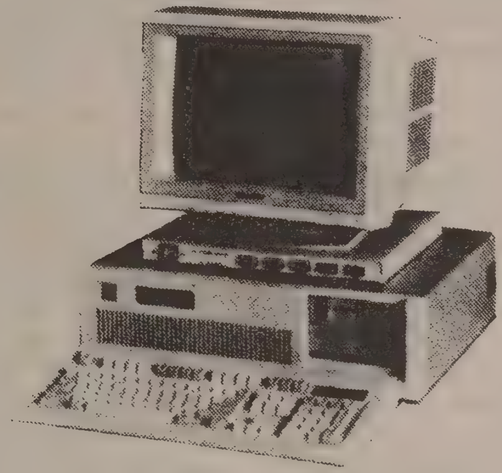

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new hardware, being in on what the other publishers are doing. I think we have a pretty good track record: we had integrated software in '79; we had the fifth product for the Mac; we had desktop publishing for the PC in '86; we had word processing on the Mac before all the other guys got in, and now we have a graphics application under *Windows*, which is the first of its kind. So I think we've done a fairly good job of sensing those trends, and it's not any sort of brilliance or divine knowledge, it's just because we're basically computer users here.

How did WriteNow come to T/Maker?

HR: There was a company called J.T. Solaster up in Seattle. They were known to be good programmers, and Apple commissioned them to do a word processor.

RF: Actually Apple got cold feet about whether *MacWrite* was going to make it on time for the Macintosh rollout. They had visions of "we have this graphical machine, it has this thing called *MacPaint* on it—and nothing else?" It really is a $2500 Etch-A-Sketch at that point.

HR: So they had these guys write this thing called *MacAuthor* as backup code. But *MacWrite* got done, and they shipped with that, and they kind of lost interest in these guys. And as they learned, these guys were meticulous, and somewhat slow in getting the product done anyway.

Well, Steve Jobs really liked the product. He liked it so much that he bought their company. He bought the source code to the product, they moved the company down here, and they said, "Let's finish it." And one of the terms of the deal was that ultimately Steve would market it for the Macintosh market to make some money back for these guys.

RF: The idea was that *WriteNow* was supposed to be the same as *MacWrite*, but these guys got so aggressive with it, coding in 100% assembly language, multiple columns, footnotes, that they actually took it way beyond that. So it was in Steve's mind that this was going to be the replacement for the Mac's entry-level business word processor.

HR: Steve drove it a lot and continued to keep the features going, and played a fairly big hand in it.

RF: We think all of that's significant because, if nothing else, *WriteNow* is very easy to use, because it was designed as either a companion product or a replacement for *MacWrite*. You don't see that in a lot of the newer products that are coming out—they're all going "let's all violate the Macintosh interface as much as possible."

HR: Meanwhile, two of our developers went off and took jobs at NeXT. So they were sitting around one day at NeXT, and at this time there were probably 20 employees, and they decided that they didn't know anything about publishing software (laughs), which was very good for us. And the two developers who had worked for us said, "Well, *we* know some people who know how to publish software. . . ."

So they invited us up for lunch, and it was rather funny. I went for one reason, which was that I'd never met Steve Jobs and I thought, "I've been making money off the Macintosh for years, and wouldn't this be interesting. . .(laughs) I'll go up and give them a little one-hour mini-lesson."

We had about a three-hour meeting. Steve came in about halfway through and just grilled me: "How much does this cost?" "What distributor's the best?" "How do you get them to sell your product?"

Then we went off on our merry way, because we were in the heat of *Personal Publisher* and getting that shipped, and they went off on *their* merry way, and discovered that it was very distracting for them to try to start a software publishing business.

RF: Also, as soon as they ship a machine, Steve's going to be on the cover of everything including *Field and Stream*. Everyone was waiting for Steve's next product, and it would be anticlimactic for it to be a word processor.

HR: So we went back in. We had sold *Personal Publisher*, and then a month later we sold *ClickOn* to Borland. Right when we signed the deal, Philippe Kahn turned to us and said, "What are you guys going to do? You don't have any more products." So we went home and thought, "What are we going to do? We don't have any more products."(laughs)

So we went back to NeXT and said, "Hey, why don't you let us do it?" It kind of just felt right—they had gotten comfortable with us, we had a good in with these developers . . .

RF: We had people tugging on Steve's shirt saying, "Let them do it, let them do it. . ."

HR: And also, what was nice—when we sit down to negotiate a contract, we're not like some product manager who has to answer to four levels or something. It was a very unique deal—no one else could have done it, because I don't think anyone else would've been willing to sit down and craft such an unusual deal. Steve wanted to have a say in the look of the materials. We normally never give a developer prior approval, but in this case. . . They wanted to have more of the reward, so they shared the risk with us. It's more like a joint venture than a typical royalty deal—they actually help us pay some of the marketing expenses.

RF: When we started out contractually, the upgrade to 2.0 was only going to be a few items, a few feature improvements on a very low level. We said to ourselves, "We'll cross that bridge when we come to it, because we're going to sell a lot of products and these are the type of people who aren't going to orphan customers."

The people up there—the "father of the Macintosh" and the whole family of the Macintosh—felt very passionate about it. They're going to feel passionate about making a word processor that's very contemporary in the marketplace.

When we announced the upgrade, it had 16 feature changes over 1.0, which was about four times as many as we were supposed to get in the first place. We were pretty happy about that. We knew that we were going to add even more on.

HR: We log every user request, and we take those to NeXT every month. This is good feedback for them—think of beta testing the word processor for the NeXT machine on 50- or 60,000 Macintoshes. It's given us a lot of leverage when we come back and say "We want this feature" —it' s not "*We* want this feature," it's "Here are 87 people who called this week who would like to have this feature." They've really been good about taking that element of personal pride in the product.

RF: The final 2.0, when it ships, will have over 50 features, improvements, changes to the program, over 1.0. Since we announced it, we've quadrupled the number of features that we were giving people. As far as ease of use goes, *WriteNow* is easy to use, and as far as speed goes, it's the performance word processor for the Macintosh world. We also want to give people the tools they need to use it as a professional tool. Writers are probably one of our big markets out there, and yet we didn't have features that were critical to writers. So we added those features.

We took this wish list and set up a preliminary chart. Mailmerge was the number one single item. Cursor keys was the number two item. Translator issues—linking the Translator [which in version 1.0 required the user to quit the application in order to import or export files in other formats] inside, making it transparent. Those cumulatively were the most requested items.

What we've added on subsequently is fixed-line spacing. Jonathan Seybold does his *Seybold Report* on *WriteNow*, and he said, "I will stop using this if I don't get fixed line spacing, because my paragraphs can't break up vertically. Say I'm working with 10-point type with 11-point

Heidi Roizen: "I think we've done a fairly good job of sensing trends, and it's not any sort of brilliance or divine knowledge, it's just because we're basically computer users here."

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leading; when I put a superscript in there, the paragraph shouldn't break apart." So we thought Jonathan was probably pretty representative. . .

We've added word count, character count, paragraph count. Case change—more writing-type tools. Smart quotes.

A lot of the things that we're adding in wouldn't have been very pertinent if we'd talked about them a month ago. Now they're *very* pertinent, because everybody's comparing what *FullWrite* has to *Word*, and what *WordPerfect* has, and some of these things are the differentiating pieces in the puzzle.

The product's been progressing behind the curtains all along. Our number-one requested item a year and a half ago was *PageMaker* compatibility, and we worked with Aldus to do the import and export features, just as we worked with Quark, just as we worked with *Ready-Set-Go* to make sure those were all direct import-export compatible.

HR: A lot of these features may seem small, but one of the things that we've always been recognized for is the feel of *WriteNow*—when a person uses it, how intuitive it is and how well the features fit together. So 50% of that was which features to implement, and the other 50% was how. We spent marathon meetings deciding should this be two dialog boxes or one, and what order should they be in, and which thing should be on top.

We seriously spent a whole day on one menu. I guess at a bigger company you'd probably have a person doing that who doesn't really talk to the users, but at this company you have Royal, myself, the guy who's been doing the coding and the woman who heads tech support. The four of us sat down and went through it feature by feature. We went into a room and decided we would not come out until all issues had been resolved.

RF: And that was just to finalize the interface.

HR: Given the way the market has shaped up, everyone else seems to be dragging their word processors into desktop publishing; our belief is that users still need a solid word processor. People who do a lot of document work and not so much graphics work. So we really decided not to add things like picture wrap and box-drawing tools; we'd love to do that stuff over time, but let's focus our immediate attention on making it the kind of tool that a writer or a word processing person can sit down with and have it be the most intuitive tool possible for that kind of work, and not encumber it with the kind of formatting options that are really not used in day-to-day business correspondence or documentation.

Because you see your commitment to the company in terms of the long haul, how do you get away from being overwhelmed with detail?

HR: We're trying. You learn to slowly let things go. But there are some times you shouldn't let things go, and I think one of the big mistakes people make when their companies grow is that they forget to stay close to their products. I can do a demo of any of our products probably as well as anybody on the staff can, and I think that's really important, because if you don't even know what your own products do, how can you be in this business?

The things I'm trying to let go of—I'm looking for a CFO, I've been actively interviewing people, because I still currently handle all the financial dealings of the company, and need to let go of that. I recognize that there's a certain point at which my unique value to this company is not in my amazing ability to balance our checkbook. Even though I'm very good at it (laughs), it's probably not the best use of my time, so in a way I'm cheating the company by sitting here balancing the checkbook and running the monthly royalty reports. You have to know when to let go and when not to.

Ultimately this market is different from the days of '79 when we sat here at night and made up disks and put them in Baggies. We need to have the million-dollar ad budgets and distributors all over the place ready.

This week *Scrapbook* is shipping, and so two people from T/Maker, which is 15% of our staff (laughs), are down in LA doing a rollout to every distributor. You can't do that when you're an individual developer—you just don't have the time.

As a small company, how has your experience been in dealing with the retailers and dealers? Do you feel that you understand what's going on out there?

HR: We've really learned a lot about this. I think as a small company we've learned where we fit in, but we'd love to break to a new level. But it's hard.

Is breaking through to a new level largely a matter of distributors noticing you?

RF: It's not really distributors. For the most part the successful publisher doesn't rely on the distributor pushing product down the channel. Rather, we're pulling customers through. That's really important—you can look at successful software companies and successful publishers, and they do that.

In the marketplace, at least for the Macintosh, 50% of the market is through the traditional channel, through the Businesslands, the ComputerLands, the Entres, through the places where you buy an IBM PC. You don't buy a clone, you buy an IBM PC.

The other 50% is the non-traditional channel, the mail order side, the Eggheads, the discount stores, the independents. ComputerWare. Computer Attic. Typically you find knowledgeable buyers buying through this channel, and uninformed buyers buying through the traditional channel.

The specialty stores, the mail order, the non-traditional channel, they really sell what's hot. It's the best product that gets sold there. They're all intelligent.

We're now distributed through Businessland, and Businessland said one time, "Well, we just don't understand. We read great reviews about *WriteNow*, and everybody who uses it loves it, but we just don't have a lot of users knocking down our doors for it." And Heidi said, "Well, if you know enough about *WriteNow* to know that this is the word processor for you, then you know enough not to buy it at Businessland, that you can get a better price at one of the other stores."

HR: That's the nut we've got to crack. *WriteNow* always rates higher than the other products, our users love us, we've done very well in what we call the knowledgeable channel. The problem is that the very person that *WriteNow* is designed for, the novice users who don't know what they want, would be so happy to have it, are likely to never get it, because if they walk into a Businessland, *MacWrite* is sitting there, the name is ingrained. Even Microsoft *Write* didn't do that good a job in that channel.

So how do you break through that?

RF: There's different ways that you can do it, but it really starts with talking to the users, the press, everything.

[Silicon Beach's] *SuperPaint*'s an interesting example of how someone successfully cracked into the traditional channel. They had a product where all the reviews originally came out and said "Don't buy *MacPaint*, buy *SuperPaint*. *SuperPaint* is the most terrific product in the world."

And that signals to the traditional channel that uh-oh, what the end users are hearing now is not what we're telling them. That is, if somebody walks in to buy *SuperPaint*, and the traditional channel rep says, "Well, why don't you buy *MacPaint*?", he says, "Well, this guy told me not to." That's how you start it, so obviously one of the important things we're doing with *WriteNow* 2.0 is trying to get a clear message of what that product is, because in our marketplace we really feel that we're the superior choice.

HR: The problem in doing so is that we're competing against Claris and Microsoft, which seem to have unlimited resources in promoting their products. It's a very expensive proposition.

> Royal Farros: "The specialty stores, the mail order, the non-traditional channel, they really sell what's hot. It's the best product that gets sold there. They're all intelligent."

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That's what we see as the pathetic state of the industry, and we hope that the people like ComputerWare and Computer Attic will really succeed, because ultimately there's a gross misconception about software. People think it's easy enough to figure out from the back of the box which product is right for them, and it would be just as silly as going to a record store and picking an album based on the names of the songs.

You need more input, and you need a knowledgeable source of information. If we can't even get to that source to provide the information, how is that person ever going to be able to provide it to the user in turn? It's a real problem.

RF: We used to always go line up our opportunities and take whichever opportunities were easiest for us. For example, last year in the higher education market *WriteNow* outsold Microsoft *Word*. That was something where we said, "This is a terrific fit and we can get to those people." So we kind of changed our whole organization around so that we could get to those people, and we were successful. The idea is, you have to look in a global sense. You have to say, "If we're going to get university site licenses, this is not going to be one call." It's going to be a three- or four-month sales hike, so recognize that you have to set up your resources and your plan of attack in going after a three- or four- or five-month cycle.

In the same way, going after chains, there are other methodologies that you have to use, so right now we're kind of changing our organization around so that we'll be structured to go after the chains, because that's one of our last frontiers. We're even making pretty big inroads in the corporate marketplace. The corporate marketplace is very similar to the education marketplace, although it relies more on what's going on in the traditional retail stores than the education markets.

You have 14 employees. What do they do?

HR: First of all, everyone does more than one thing. One of our friends said, "You don't have a 14-person company, you have a 28-person company, it's just that each person does two full-time jobs."

We break it down into two areas, marketing and technical. But the marketing people have do time on tech support, and the technical people have to do booth duty at the trade shows. They definitely cross over a lot.

We have basically *no* administrative people. We all do our own letters and memos. We offload as much as we can—we don't do our own shipping, we don't do our own warehousing.

We tend to try to keep this organization as tight as possible, because you never know when you're going to have to change what you're doing. It's the lean and mean attitude, another of the great T/Maker concepts.

Do you think you'd ever see a product that was so spectacular that you'd want to pour all your resources into it, hire lots of people, go all-out?

RF: In a sense you're describing what we did with *Personal Publisher* and *WriteNow*, but really what we do is keep adding time onto our weekends.

HR: The problem with gearing up and staffing up, which people don't realize, is you have to spend a lot of money before you ever make it back. Which means you have to bring in a venture capitalist or bank loans or something.

We've been profitable. In a way it's a quirky kind of compliment to say that we've got two products [*Scrapbook+* and *WriteNow* 2.0] coming out, one of which is three months late and the other of which is five months late,

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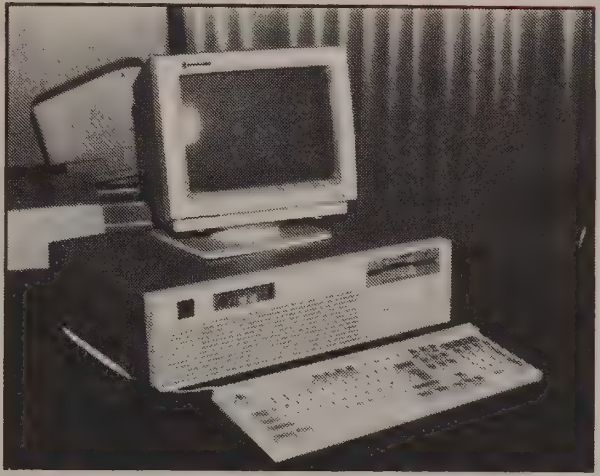

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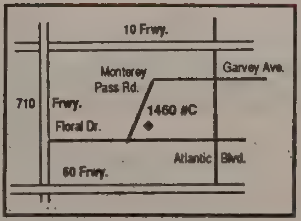

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and we're still in business (laughs). That's pretty good—we've supported our own delay there.

RF: Other people would go out of business because of that.

HR: For example, with *WriteNow* 2.0—unlike another great Macintosh word processor company, we've had the upgrade announcement out, and we have $150,000 worth of checks and credit card orders ready to roll, which we actually went and put in a safe deposit box at the bank. We will not cash those like the other company did and keep them in some account. We don't even want to transact the business until we can actually *do* it. It's nice to have the luxury to make those kinds of decisions and be able to do it.

We *have* been staffing up, but we do it at our own pace. We're currently 14, 15 people, a year ago we were probably 10. We'll probably be 20 by the end of the year, because we're going to accommodate the *Windows* stuff. We're moving into office space that's double the size of this space. We're doing things, but at our pace. I honestly can't imagine any product for which we would have to staff up and believe that we could honestly accomplish it.

I think that people fool themselves when they think, "If I just had twice as many people I'd take on Microsoft." I look at it this way—we took on Microsoft, and we managed to ship whatever we're up to now—60,000 copies of *WriteNow*.

(laughs)When *Write* came out—we're pretty good friends with some people up there, and they let us know in August that they were going to ship this *WriteNow* killer in November. And it didn't really do us any damage.

RF: That goes back to where our strengths are. We think if we have a superior product people buy us for a reason. We actually went up, relative to *Word*, when *Write* came out.

The person who decided to buy us, *Write* wasn't going to change their mind. They had already made a conscious decision to buy us.

We believe that *Write* stopped selling in the marketplace because all of a sudden what reviewers started saying was,"Well, you buy it for $175, and for $220 more you can get *Word* 3.0. For $249 or so street price, you can buy *Word* anyhow, so if you think there's going to be any possible chance of your going up to *Word* 3.0, buy *Word* 3.0 and use Short Menus." So what they're finding is that people are opting for *Word* and not opting for *Write*, because they look at the products as being so similar as to be unnecessary.

Heidi, you're the president of the Software Publishers' Association this year. How does your experience with T/Maker relate to the industry as a whole?

HR: I think we need organizations like the SPA, particularly the smaller companies and the niche companies. Why reinvent the wheel? It's a great information resource for developers and publishers to learn things about other publishers—the data report, knowing what kind of software is shipping in what volumes, the information about who's shipping 3 1/2 diskettes with the 5 1/4s in the IBM products, the salary surveys. As a proponent of industry issues it's great, and as a publicity vehicle to promote the awareness of the software industry.

I see us working in conjunction with organizations like the Software Entrepreneurs' Forum; I'm also on the advisory board of SEF, because I really believe that the needs of the developers are different from the needs of the publishers, but they need to interact. I joke about it with those guys that it's sort of like sororities and fraternities, but nobody ever likes that analogy.

I think this is a wonderful industry. First of all, there's so much profit margin in it relative to the actual hard costs, and there's so much growth potential and there's so much ability, and in fact *necessity* at this point, for all of us to work together. I mean, you go try to sell a Mac product that's incompatible with every other popular Mac product and see how far you get.

Things like format standards—silly little things like a clipboard standard for Encapsulated PostScript in the *Windows* world. As silly as that sounds, since nobody bothered to do it, and there are like five companies that probably should have done it, they're probably going to end up with five formats unless we all sit down as a group.

My goal in the SPA is to promote the concept that in spite of the fact that we all compete against other, there are many, many ways to cooperate.

If you're approaching your business morally and ethically, you can be a competitor with someone and still cooperate. Look at us and Microsoft—we joke a lot that the reason they've been pushing us so much in the *Windows* market and helping us so much is that they want to distract us from *WriteNow*. They know we're so small we can only do so much..

There's so much growth potential in the industry, why not capitalize on it? Instead of eating each other's market share, I'd rather be expanding the market and letting us all benefit from it. (T/Maker Company, 1973 Landings Drive, Mountain View, CA 94043, 415/962-0195.) ☐

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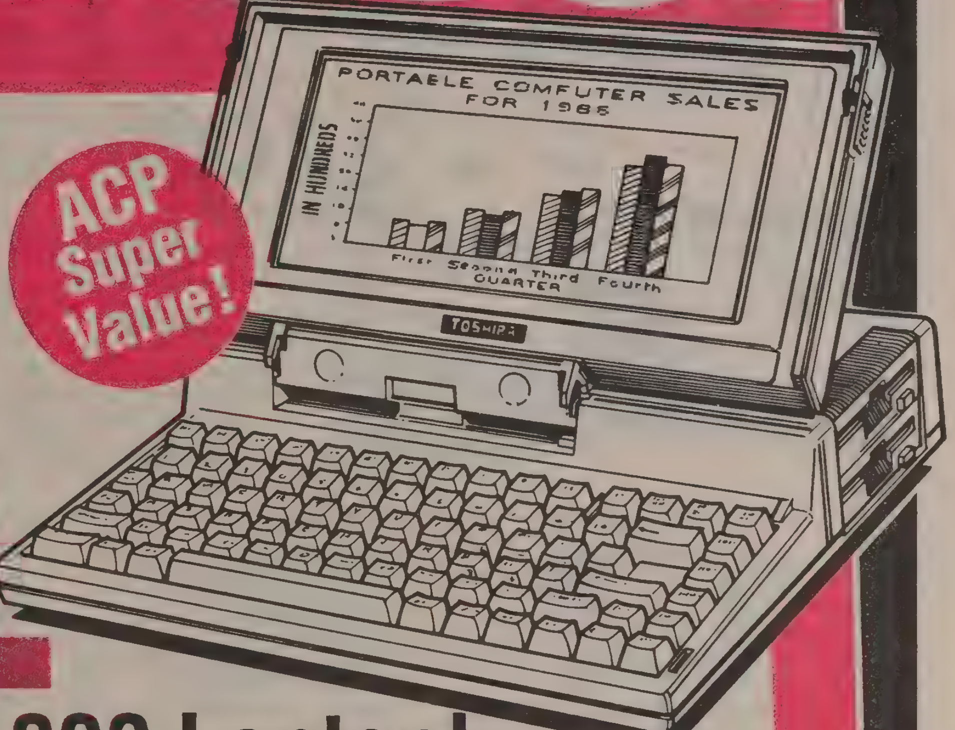

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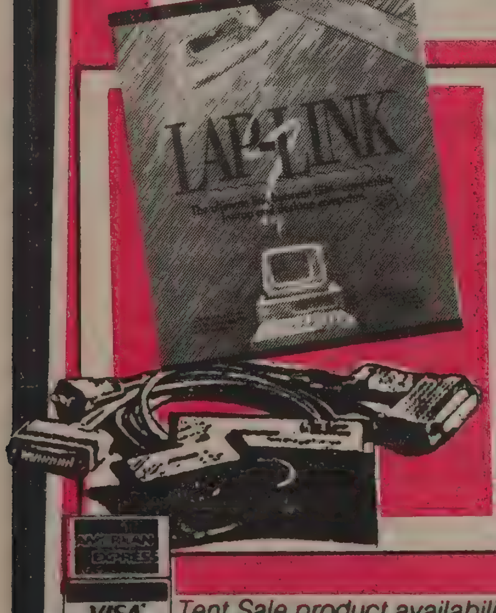

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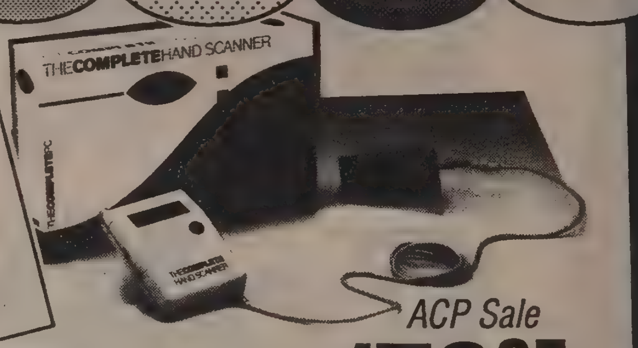

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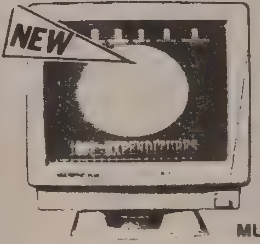

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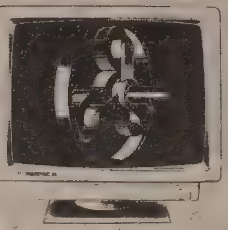

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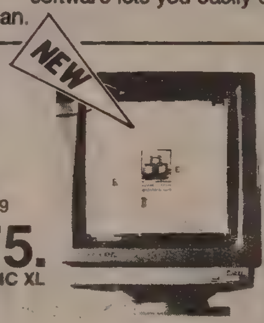

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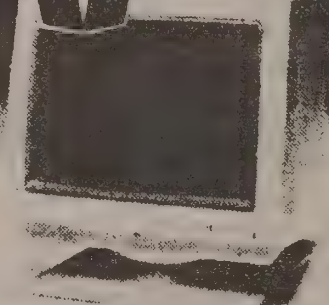

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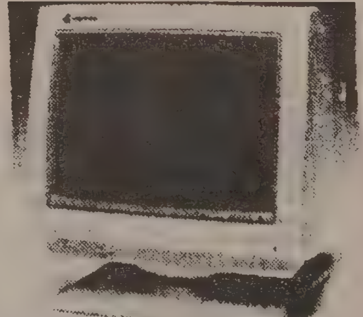

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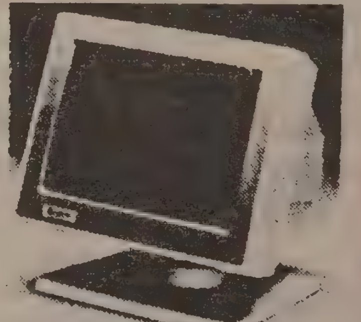

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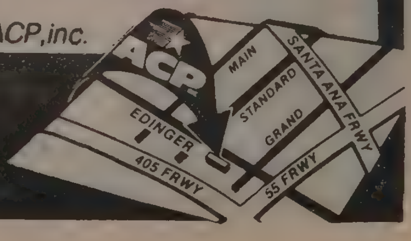

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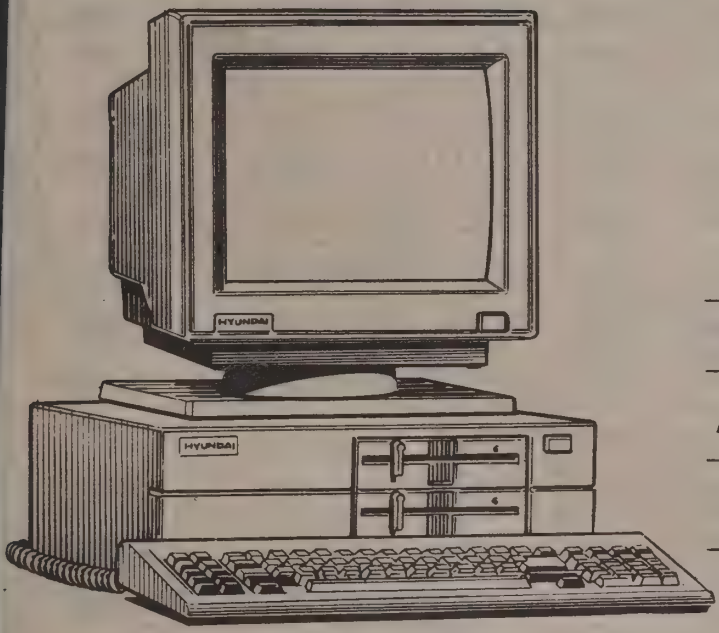

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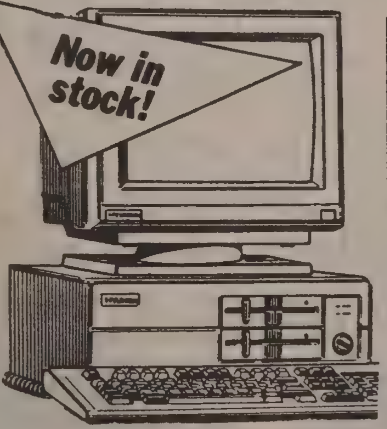

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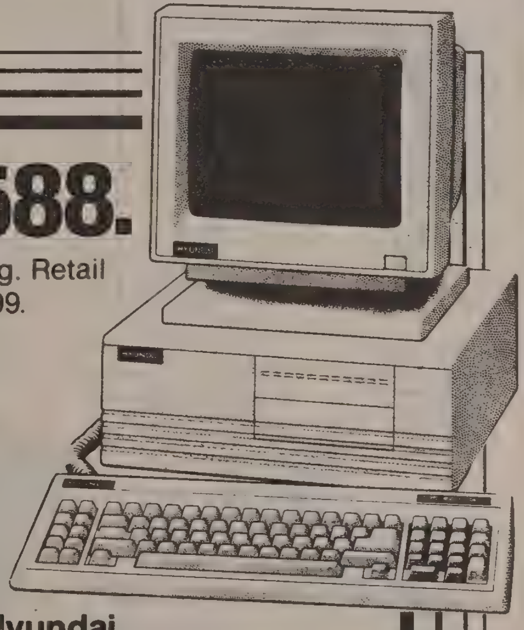

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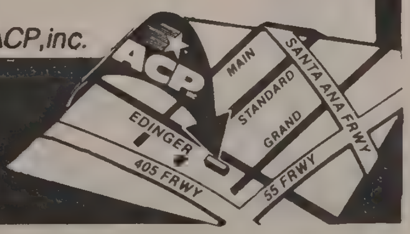

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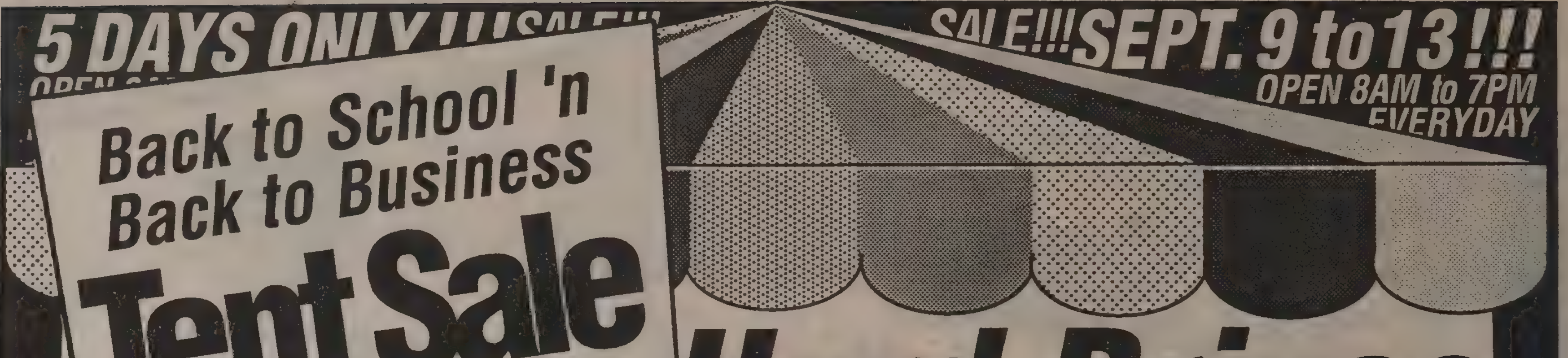

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Seagate	ST277R	Half	76.9MB	6	820	40ms	8ms	RLL	684-0017	549.
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Seagate	ST4053	Full	50.9MB	5	1024	40ms	8ms	MFM	684-0014	699.
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Micropolis	1333A	Full	53.3MB	5	1024	30ms	6ms	MFM	768-0001	649.
Micropolis	1335	Full	85.5MB	4	615	65ms	20ms	MFM	768-0002	849.
Miniscribe	3650	Half	43.5MB	6	809	61ms	20ms	MFM	559-0005	489.
Miniscribe	6053	Full	53.3MB	5	1024	28ms	6ms	MFM	559-0007	649.
Miniscribe	6085	Full	85.3MB	8	1024	28ms	6ms	MFM	559-0003	849.
Maxtor	XT1085	Full	85.3MB	8	1024	28ms	4ms	MFM	571-0002	888.
Maxtor	XT1120	Full	127.9MB	8	1024	28ms	4ms	RLL	571-0003	995.
Maxtor	XT1140	Full	143.5MB	15	918	27ms	4ms	MFM	571-0004	1869.
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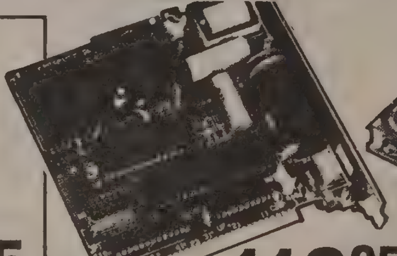

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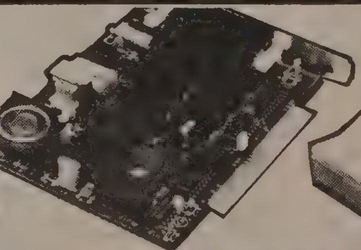

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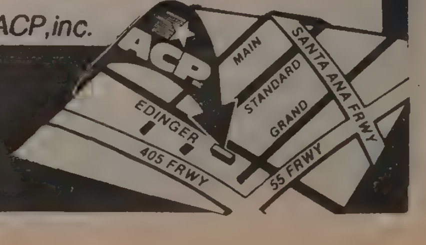

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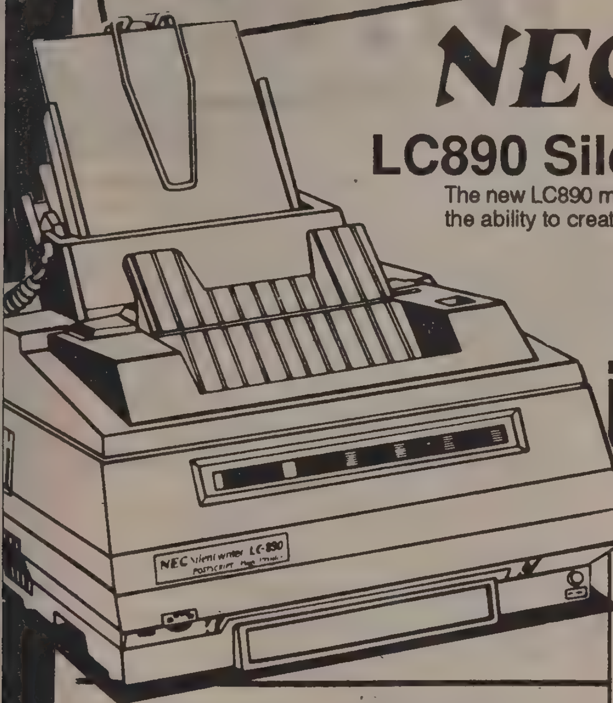

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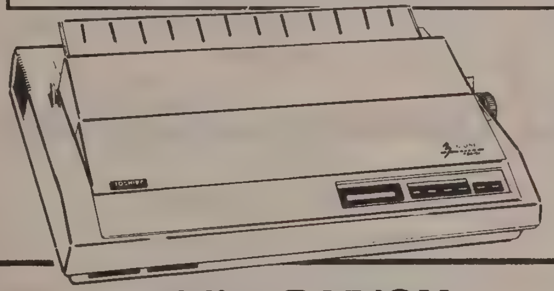

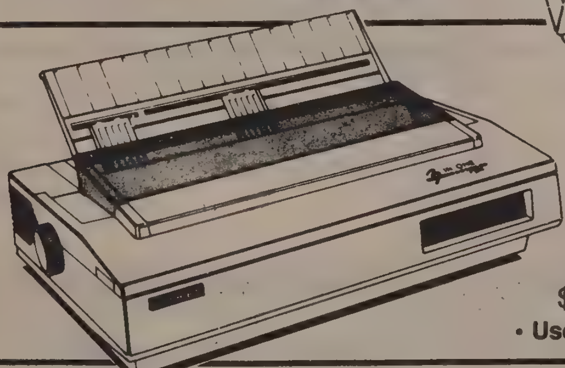

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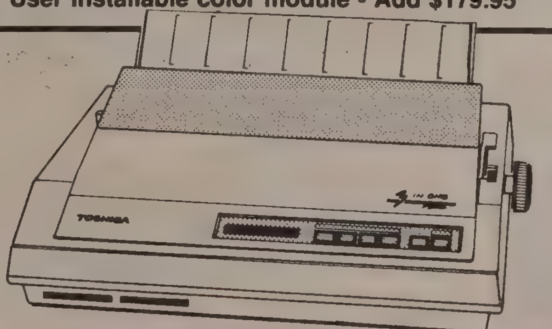

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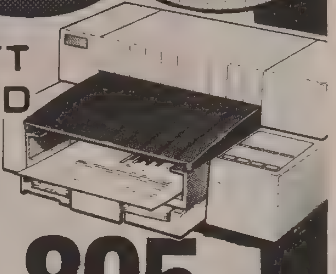

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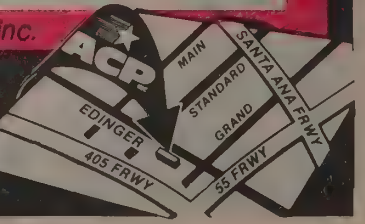

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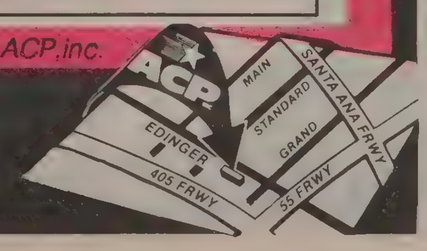

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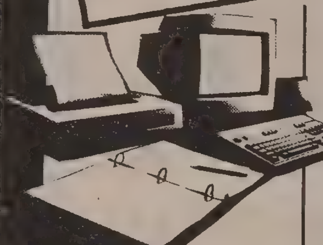

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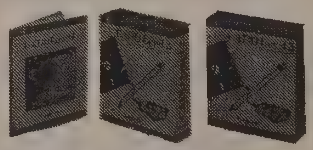

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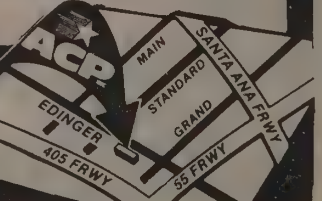

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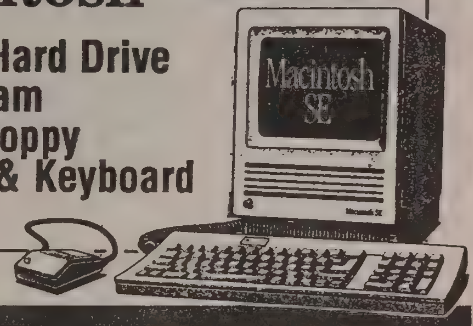

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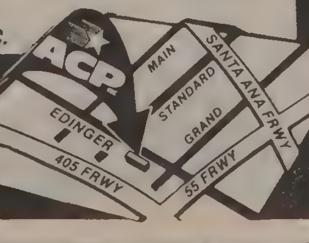

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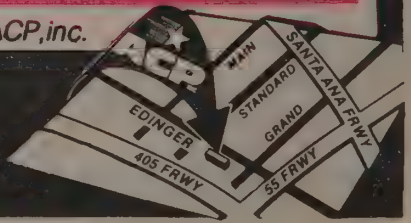

MAC @ WORK

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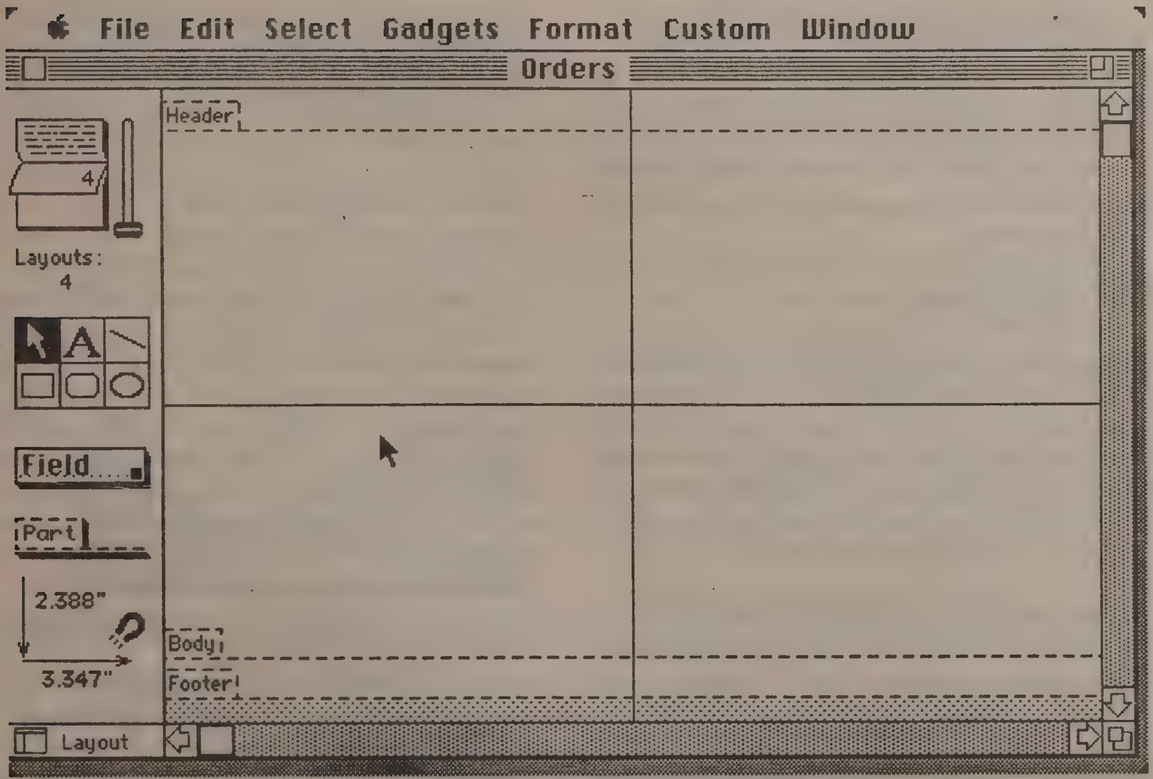
FileMaker 4

A Powerful, Easy To Use Database With Graphic Layout Capabilities

By Tony Rocco

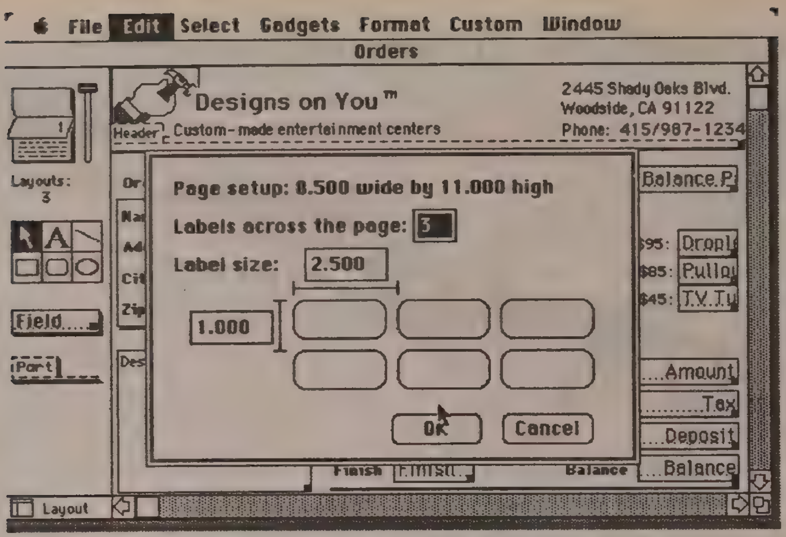


Laying things out in FileMaker is similar to using a DTP program. A T-square feature helps align text and graphics.

Mention the word "database," and I think of a certain nameless clunker of a program around the office, the limitations of which have become a byword. I could only use one font in creating reports, for example. Changing the template to determine what fields to print was a mysterious process that usually created unexpected results. Some unidentified bug left an office mate with 25 blank pages before text would materialize in any large text-only file he printed to disk.

Compared to this, *FileMaker 4* is a paragon of clarity. The program's graphical interface, the consistent way in which it is employed, along with a thorough, well-written manual, make *FileMaker 4* an interesting and engaging program to learn and to use. The novice database user will be particularly appreciative of it.

FileMaker 4, an upgrade of *FileMaker Plus* from Nashoba Systems (just acquired by Claris Corporation), is a file management program that integrates graphics and basic layout capabilities. *FileMaker* can create slick-looking reports with footers and headers, a company logo and illustrations, unusual layouts, summaries and grand summaries. It is also makes churning out mailing labels a relatively simple and effortless affair.



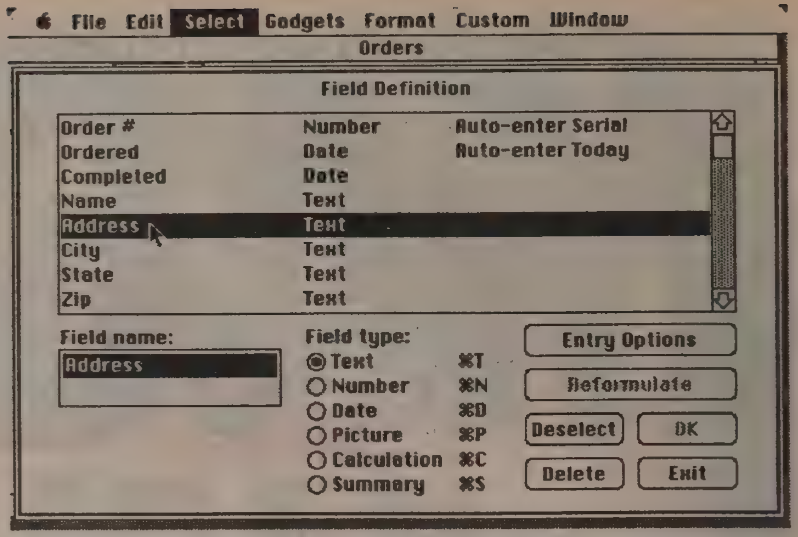
Page setup: 8.500 wide by 11.000 high

Labels across the page: 3

Label size: 2.500

1.000

From the software end, printing labels is a cinch with this simple box to define dimensions.



Order #	Number	Auto-enter Serial
Ordered	Date	Auto-enter Today
Completed	Date	
Name	Text	
Address	Text	
City	Text	
State	Text	
Zip	Text	

Field name: Address

Field type:
● Text ⌘T
○ Number ⌘N
○ Date ⌘D
○ Picture ⌘P
○ Calculation ⌘C
○ Summary ⌘S

Defining fields is a simple matter of using the Define command, naming a record and clicking on the desired Field type.

Using *FileMaker 4* mostly involves two basic modes, Browse and Layout. You use the Browse mode mainly to enter data into fields. In the Layout mode, you create the graphic design of the report you want to print out..

The Browse Mode: Data Entry

The first in step in using *FileMaker* is to set up your fields. Accomplishing this is a simple process of using a dialog box to name and define fields. You can select from Text, Number, Picture, Date, Calculation and Summary fields.

Choosing the Calculation field will give you a bewildering variety of options to calculate values from existing values within a record. *FileMaker* provides the user with a vast array of arithmetic, comparison, text and logical operators, and mathematical, financial and repeating field functions. They are all easily accessed from a dialog box that displays choices in scrolling fields.

Summary fields are also created with a dialog box, but you select one of seven preset summary formulas rather than constructing a free-form calculation. Summary fields are different from calculation fields in that they apply to a given field common to a group of records rather than a group of fields within a record. Summary fields must be placed in special summary parts that are created in the Layout mode. They are not kept as part of a single record.

FileMaker offers the user two important options when defining fields. The first is a Lookup feature that requires the existence of another file with related information to be used in the current file. For example, if you are preparing an invoice with a list of car parts, their prices, serial numbers, etc., you can link your invoice file to another file containing information on all your parts. When you enter, say, the name of the part, or its number, *FileMaker* automatically looks up the rest of the information on that part and puts it in the correct fields.

Another highly useful feature is *FileMaker*'s Entry Options. Two of the best ones are automatically inputting today's date, and automatically entering serial numbers. You can also use Entry Options to make sure the values in a given field have certain characteristics: that they are within a certain range or are unique or have a numeric value only. You can create a list of specific values for a given field so that when you enter data in that field, a scroll box appears with those preordained selections. You then double-click on the one you want to enter.

Any database will find and sort according to a variety of criteria, but *FileMaker* does both especially elegantly. When you choose Sort from the Select menu, you are presented with a Font/DA mover type dialog box displaying all the fields in your records on the left. You select the fields you want to sort by and place them in the box on the other side, in the order you want them sorted, with the click of a Move button. Then you press the Sort button and get a very fast sort. *FileMaker* sorted 210 records by two criteria in under five seconds on a Mac Plus.

As easy and quick as the sort function is, the Find capabilities of *FileMaker* are more impressive. You choose Find from the Select menu and get a window displaying all your fields. On the left of the screen are <, >, ≤, ≥, =, ..., ! and // buttons. You have the option of selecting or omitting records by the criteria these symbols represent.

The ..., ! and // buttons may require some explanation here. The first symbol finds values, numerical or alphabetical, between and including values that you place on either side of it. The exclamation point tells *FileMaker* to search for any field contents that are duplicates. The // looks up records that have today's date in them. You can tell *FileMaker* to find records that contain values in certain fields and omit records with specified values in other fields, simultaneously. It is also easy to ask *FileMaker* to find records by one criterion or another. By selecting New Request from the Edit menu and entering new criteria, you can find records that have anyone who lives in Los Angeles *or* San Francisco *or* has a last name that begins with R. And Finding records with FileMaker is as quick as sorting.

Using Find and Sort results in easily and quickly getting to the desired records in your file and putting them into the order you want them for a report. When you're to the point that you've defined your fields, entered your data and found and sorted for the records you need, it is time to move from the Browse mode into the Layout mode. In many ways, its layout and graphics handling capabilities are *FileMaker 4*'s most exciting features. They are not without their shortcomings, however.

Layout Mode: Report Generation

If you are printing out a report that has to look just so, your first step is to tell *FileMaker* what kind of printer you intend to use and what size paper you want it to print out on. This step is extremely important. You go under the Apple and select the appropriate printer icon in Chooser. Then from the File menu you select Paper Sizes and decide what paper size you are going to print out on. You have several standard sizes to select from plus the option of defining a custom paper size of your own. Completing this process leads to giving Page Setup information for the printer. You give it the same info that you put in Paper Sizes.

Next, you go under the Select menu and choose Layout. In this mode you see all your fields, while on the left you have a *PageMaker*-type tool box, a book icon to keep track of layouts by turning pages, and a Field and a Part icon. If you scroll the page to the right, you encounter a vertical line indicating the right side of the page. (The line is actually half an inch from the very edge of the paper because most printers will not print any closer to the edge.) Scrolling down the page will bring you to a dotted horizontal line. This indicates the bottom limit of the page, again a half inch from the actual edge.

Laying things out involves moving and deleting fields, changing their sizes, changing typefaces, styles and point sizes, and placing fields and images in appropriate Parts. *FileMaker* works very much like a simplified page layout program, and those with DTP experience will feel comfortable with it. You can include simple graphics or paste in more elaborate images from the Scrapbook. Any graphic with a file format the Scrapbook can handle can be put in *FileMaker 4*. If the image is copied into a field, it will be specific to that field. If it is copied into the Body of the document, it will be common to each record. If you place it in the header or footer, it will appear at the top or bottom of the first page. Finally, if an image is put in a grand header or grand footer, it will be shown at the top or bottom of each page in the report.

It would be nice to have a ruler, vertical and horizontal, to help lay out fields and graphics. Instead, *FileMaker* has what is called a T-Square to provide measurements. When you move either the horizontal or vertical line of the T-Square, the distance from the top or right margin, displayed in the lower left corner of the screen in inches, changes. This arrangement works passably well and, along with the Page Preview feature, is adequate for laying things out. Things could be a little easier, however, with a ruler giving measurements in inches or picas.

All in all, laying out fields and graphics is an easy and straightforward task in *FileMaker*. The T-Square has snap-to capabilities that assist in aligning objects. The Layout window itself has an invisible magnetic grid of 12 divisions per inch to help ensure that objects line up with each other. Precise placement of fields and graphics is quite

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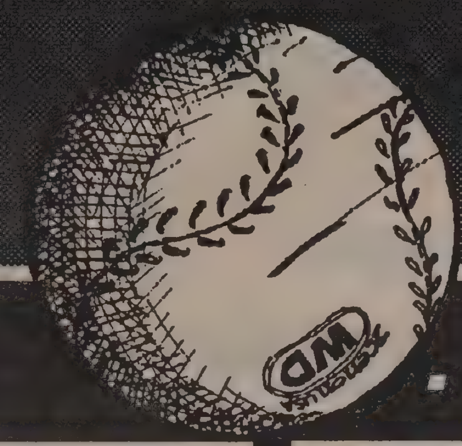

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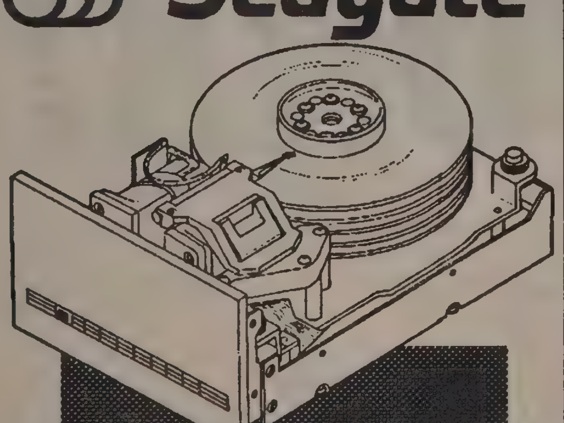

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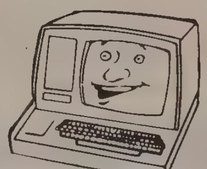

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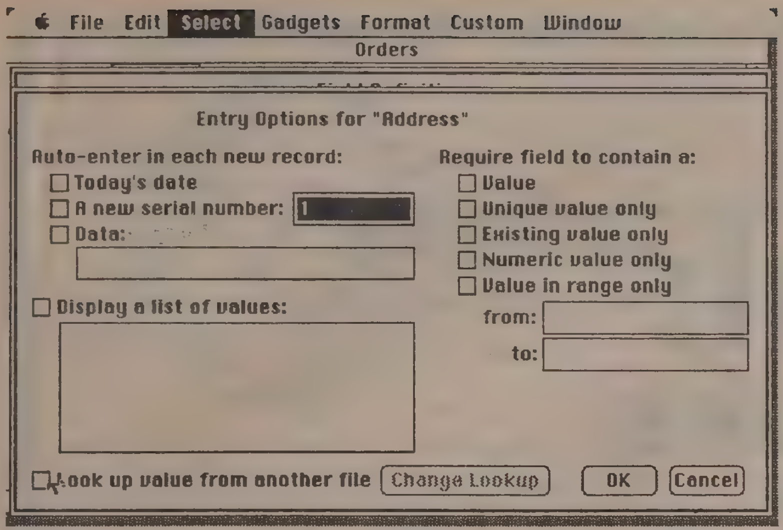


Entry Options for "Address"

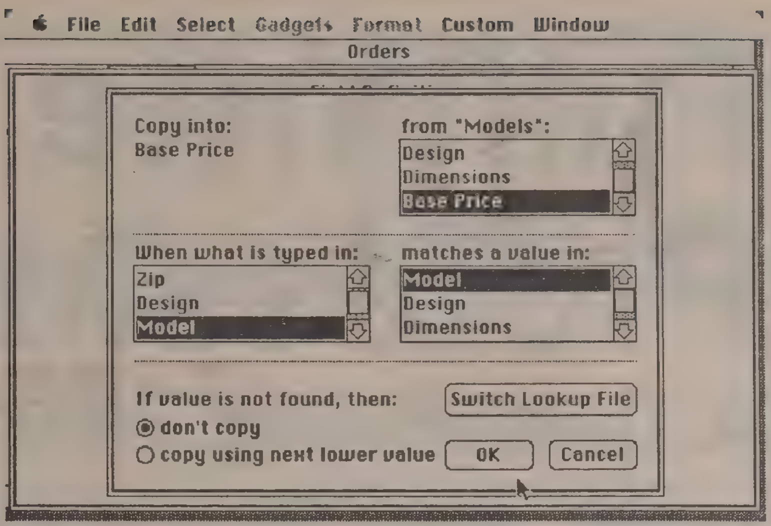
Auto-enter in each new record:
☐ Today's date
☐ A new serial number: 1
☐ Data:

☐ Display a list of values:

Require field to contain a:
☐ Value
☐ Unique value only
☐ Existing value only
☐ Numeric value only
☐ Value in range only
from:
to:

☐ Look up value from another file

Entry Options offers time-saving and error preventative functions such as auto-enter serial numbers and restricted fields.



Copy into: Base Price
from "Models": Design, Dimensions, Base Price

When what is typed in: Zip, Design, Model
matches a value in: Model, Design, Dimensions

If value is not found, then:
● don't copy
○ copy using next lower value

A convenient Lookup feature links two files and saves time-consuming data entry.

easy with this grid. If the grid doesn't suit you, however, you can turn it off.

One of *FileMaker*'s strong points is printing mailing labels. It's easy. First you go through the procedure of selecting the printer, page sizes and page setup. Label layout is available with the New Layout command. When you select Label layout, you get a dialog box that asks you to specify the number of labels across the page and the size of the labels. After you enter the correct values and click OK, a Font/DA mover type dialog box asks you to select the fields you would like to print and their order. You move them from the scrolling field on the left to the one on the right and click OK. If you select more fields than a label can hold, *FileMaker* alerts you. After that, it's just a matter of putting your labels in the printer and choosing Command-P. The hard part involves getting the labels started at the right point vertically in the printer. But once you start things out properly, *FileMaker 4* produces page after page of evenly spaced names and addresses.

FileMaker 4 contains many useful features like the ability to create macros, called Scripts, to automate sorting, finding and printing functions; and the ability to safeguard a file with a password. *FileMaker* can also be used over a TOPS or AppleShare network.

Autosave is a more dubious blessing. It eliminates the Save As command entirely. Make A Copy, the only alternative to Save As, requires that you rename the copy when the file you are working on should be the one renamed, as it is the subsequent version. The only thing to do is make a copy, name it, then close the current file and open the copy as the saved-as file. This awkward procedure is a particular pain when working with templates, a common occurrence with any database.

All in all, though, *FileMaker 4* deserves widespread popularity with businesses that require a flexible non-relational database that will not just store data away somewhere, but produce useful, visually appealing reports and documents. Its ease of use and exciting graphical interface more than outweigh its few flaws. (*FileMaker 4*, Nashoba Systems, Inc., 1157 Triton Dr., Suite A, Foster City, CA 94404. (415) 578-1974.) ☐

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FullWrite Professional:

A Continuing Tale Of Love, Hate And Memory

By Mary Eisenhart

It's a little hard to know what to say about *FullWrite Professional.*

If it weren't for one or two little things, *FullWrite* would be the only word processor on my hard disk. It continues to transfix me as it reveals yet another feature I've waited years for. Look at your basic *MicroTimes* page, and consider how useful it is to be able to change all the occurrences of PageMaker to *PageMaker* from the Find menu...For a feature like that I'm willing to live with a little sluggishness on my Plus.

And that endearing autosave rescuing me from the consequences of my own absent-mindedness — a godsend.

However, *MacWrite* and *Word* have not yet been consigned to the Trash can. The other day, having used *FullWrite* to good advantage on several short documents, I tried to open a newly-arrived 20-page *MacWrite* opus. Not enough memory to complete this operation, says the dialog box.

So today, I try to paste in a *SuperPaint* graphic, a scan of some line art. (A process which the *FullWrite* manual seems to assume everybody knows how to do, which may be a bit optimistic. *FullWrite* does offer a *MacDraw*-like graphics program, and gives a reasonably detailed description of its use. However, it seems rather more likely, especially in the corporate world, that most users are going to import graphics rather than draw their own, and it would be nice to see this issue addressed in some detail in the manual's next revision.)

Not enough memory for that either, says the Plus.

With curses and imprecations and much cable-swapping, I try the two-meg machine. Under Multi- and vanilla Finder. Nope. I try booting from a floppy with a less bloated System. No change.

I can, however, report that the five-meg II handled the graphic paste and subsequent text wraparound gracefully. But now that I've created a 120K *FullWrite* file, the Plus won't open it.

There's More

Not only will *FullWrite* make you pathologically aware of every byte of RAM you don't have, it tends to take over those stray bits of disk space too. You ought to check your System file periodically, because you may find files with names like VM432875 proliferating. I threw out two megabytes' worth this morning.

Apparently, according to the wizards at BMUG, these files are cousins of the Word Temp files that Microsoft *Word* generates. (The documentation does not address the issue; there's an AutoBackup feature, but this isn't it.) They're supposed to go away, in the manner that Word Temp files eventually did. They don't always. Throw 'em out.

So Why Do I Love This Program?

For the same reason anybody likes a particular program, most likely. Because it does a lot of things I need to do very well, and because it's pretty easy to figure out how to do them, most of the time. Which is a lucky thing, because the manual suffers from the common problem of requiring you to ask the correct question before you get any useful information.

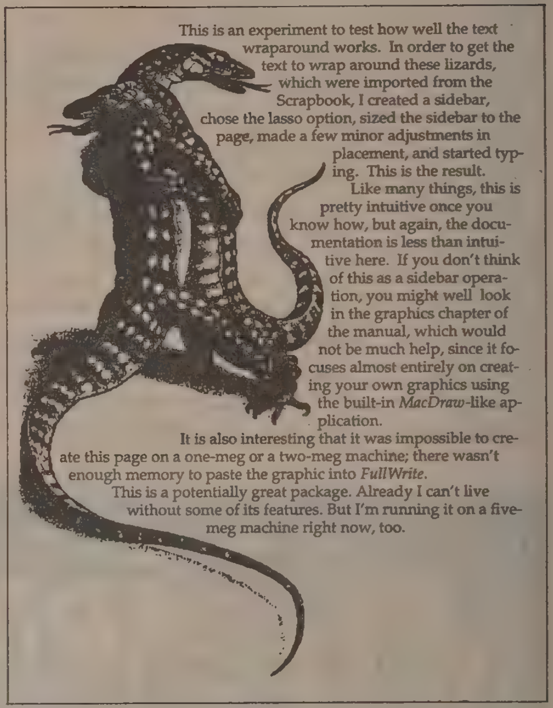
For instance, one of *FullWrite*'s most attractive features is its ability to wrap text around random-shaped objects. If you happen to be one of those foolhardy enough to look for instructions on how to accomplish this feat in the graphics chapter, you'll get a migraine and no info.

But if you look in the chapter on sidebars, you'll learn a lot. There's a certain amount of immersing yourself in the metaphor required here.

Sidebars

FullWrite uses the sidebar concept to serve a number of functions. Its most common use will probably be as a workaround for the fact that the program does not support unequally-sized columns. You can easily create a sidebar, size and place it on the page by a simple dragging procedure, and choose such niceties as gray-scale backgrounds and different styles of border. *FullWrite* does not support the Master Pages concept *PageMaker* users are familiar with — if you want unequal columns on every page of your document, you'll have to create the sidebar manually on each page.

You can place both text and graphics, and even another sidebar, within the sidebar. Best of all, sidebars can be defined as either rectangular or random-shaped by simply choosing a marquee or lasso option. And, if you want to wrap text around a graphic, it couldn't be easier; simply paste the graphic into a lasso-type sidebar, place the sidebar on a page, define the amount of whitespace and/or border you want around the sidebar, and the text on the page will automatically wrap around the graphic. (Especially in the case of scanned graphics, you may find that you want to edit your



This is an experiment to test how well the text wraparound works. In order to get the text to wrap around these lizards, which were imported from the Scrapbook, I created a sidebar, chose the lasso option, sized the sidebar to the page, made a few minor adjustments in placement, and started typing. This is the result.

Like many things, this is pretty intuitive once you know how, but again, the documentation is less than intuitive here. If you don't think of this as a sidebar operation, you might well look in the graphics chapter of the manual, which would not be much help, since it focuses almost entirely on creating your own graphics using the built-in *MacDraw*-like application.

It is also interesting that it was impossible to create this page on a one-meg or a two-meg machine; there wasn't enough memory to paste the graphic into *FullWrite*.

This is a potentially great package. Already I can't live without some of its features. But I'm running it on a five-meg machine right now, too.

FullWrite wraps text around irregular-shaped graphics with simplicity and elegance—if you have enough memory.

You can place both text and graphics, and even another sidebar, within the sidebar. Best of all, sidebars can be defined either rectangular or random-shaped by simply choosing a marquee or lasso option.

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art a bit in your paint program first. While *FullWrite*'s drawing program offers some useful tools including Flip and Rotate, it handles sizing by letting you change horizontal and vertical size without maintaining the drawing's proportions. Also, the text will wrap itself around the outermost stray black pixel and *FullWrite* doesn't give you an eraser.) If your Mac has enough memory to handle this operation (and in my experience a two-megabyte Mac doesn't), you'll be amazed by the simplicity and elegance of this function.

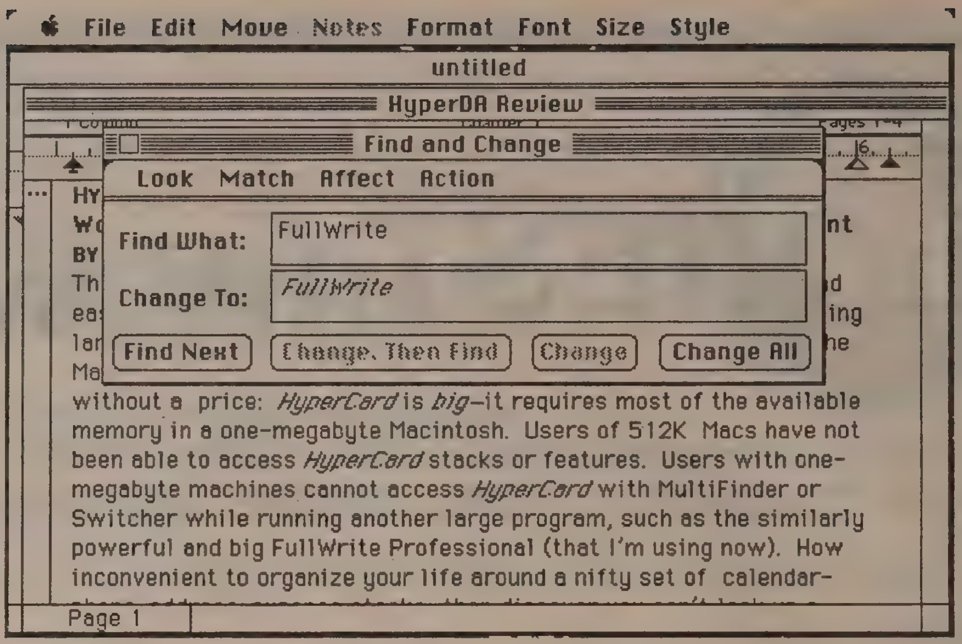
Notes And Outlines

Another particularly nice feature of *FullWrite* is that it lets you place various types of notes within your text. Legal and scholarly types will find any type of footnote support they might require. But most interesting is the Posted Note option, which lets you place additional information out of sight in a document (one caveat — if you save your *FullWrite* files in, say, *MacWrite* format, all your notes and other *FullWrite*-specific elements vanish). A note icon sits in the margin beside the text to which the note refers, and if the person reading your document wants more information, it's a simple matter of double-clicking the icon. I suspect that as more people get used to *HyperCard* and as groupware takes over the office, the Posted Note will become one of *FullWrite*'s most attractive features. The current version of the program, with its ability to track the work sessions of a document's creation, along with its note-posting capabilities, seems well thought out as the foundation for a multiuser/LAN version to fulfill the promise of *ForComment* on the PC.

FullWrite supports a wide variety of outlining styles and formats, and lets you create your entire document in outline form, then "flatten" it into conventional form. I found the outliner counter-intuitive and something of a hassle to use, but this is, I think, mostly a matter of individual taste and experience. The outline feature can also be used to generate tables of contents and the like, which book authors will find useful.

Undocumented Feature With System 6

In company with a number of other Mac applications, *FullWrite* has a known problem with Apple's System 6.0 in that it won't let you open a *FullWrite* document from the desktop. According to Ashton-Tate's tech support, this has to do with something called a "bundle bit" in the program which behaves oddly with System 6; the practical solution to this problem is to put the Thesaurus and Dictionary files in a subordinate folder in your *FullWrite* folder. I did, and it worked fine. The more venturesome may want to remove the bundle bit entirely, using *ResEdit* or *DiskTop*.

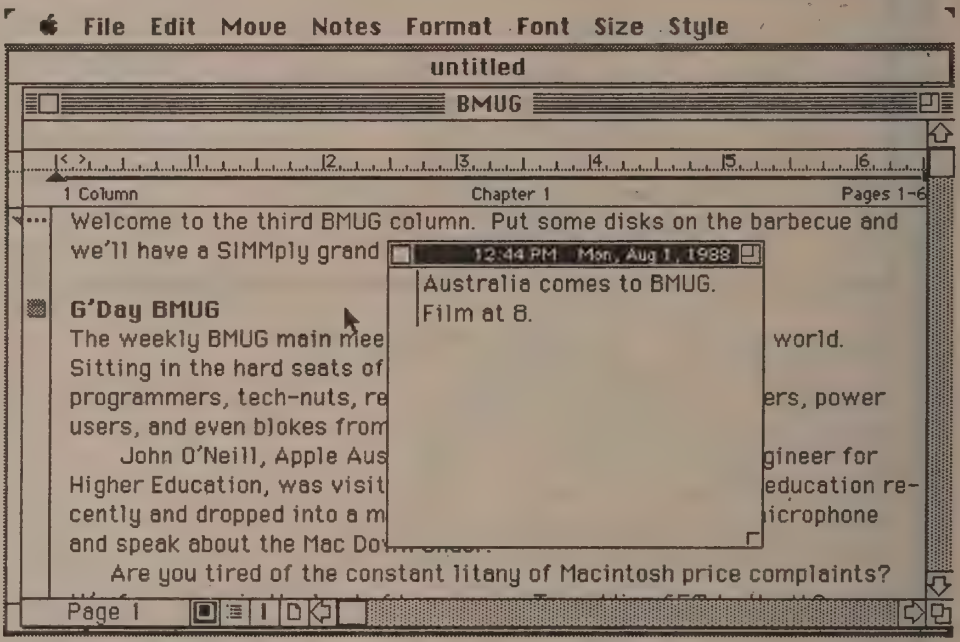


Find What: FullWrite

Change To: *FullWrite*

without a price: *HyperCard* is *big*—it requires most of the available memory in a one-megabyte Macintosh. Users of 512K Macs have not been able to access *HyperCard* stacks or features. Users with one-megabyte machines cannot access *HyperCard* with MultiFinder or Switcher while running another large program, such as the similarly powerful and big FullWrite Professional (that I'm using now). How inconvenient to organize your life around a nifty set of calendar-

One of FullWrite's most attractive features is that it allows you to make style changes from the Find menu for the whole document.



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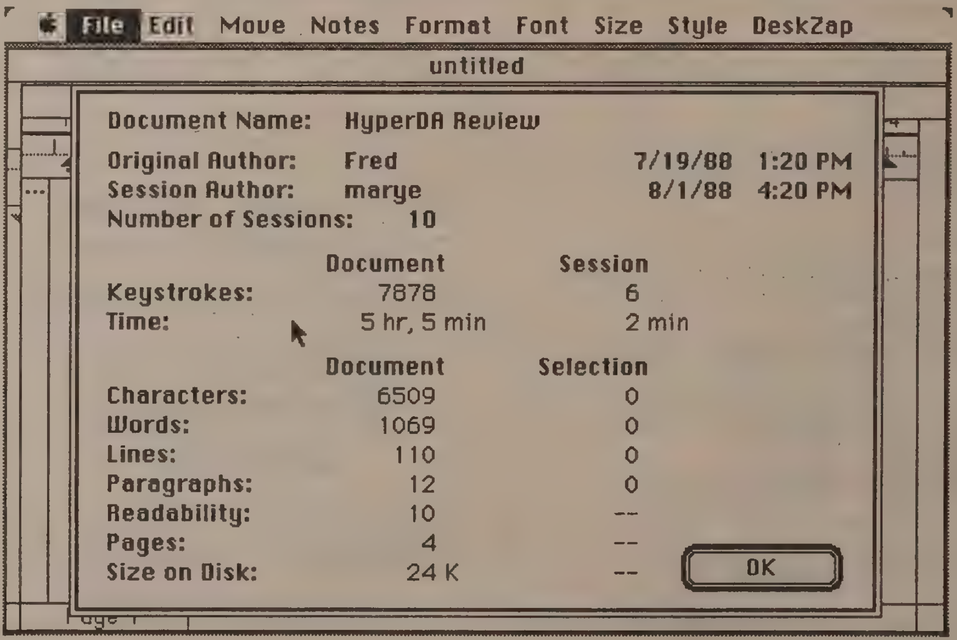
Posted notes stay hidden until the reader double-clicks their icons in the left margin.



Document Name: HyperDA Review
Original Author: Fred 7/19/88 1:20 PM
Session Author: marye 8/1/88 4:20 PM
Number of Sessions: 10

	Document	Session
Keystrokes:	7878	6
Time:	5 hr, 5 min	2 min

	Document	Selection
Characters:	6509	0
Words:	1069	0
Lines:	110	0
Paragraphs:	12	0
Readability:	10	--
Pages:	4	--
Size on Disk:	24 K	--

The Get Info option keeps track of the history and statistics of each document.

So, Should You Buy This Program?

In my opinion, *FullWrite* is a brilliantly conceived product which makes excellent use of the Macintosh concept, and I hope its interface and features mark the beginning of a new and better era in Mac software. However, the most hardcore *FullWrite* religionist isn't going to make much of a case for its speed or its economical use of RAM. So, unless you got your memory expansion already, make sure your machine can handle the type of work you want to do; if you've got a one- or two-meg Mac, I strongly recommend putting the software through its paces on a similarly-configured system at the dealer's before you buy. Pay particular attention to graphics handling.

In many ways *FullWrite* is an excellent choice for even the first-time user, in that it's easy to get started with and offers more sophisticated features as you need them. However, because of its enormous memory requirements and its occasional, often non-repeatable, bugs, I hesitate to recommend it to the absolute beginner. A pity, because if you've got the hardware it requires, *FullWrite* might really be the only "publishing" package you'll ever need.

The most hardcore FullWrite religionist isn't going to make much of a case for its speed or its economical use of RAM.

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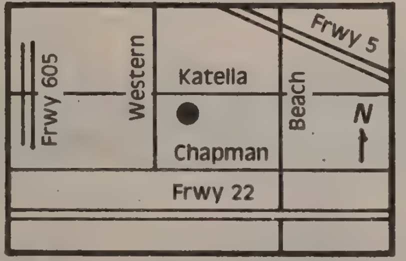

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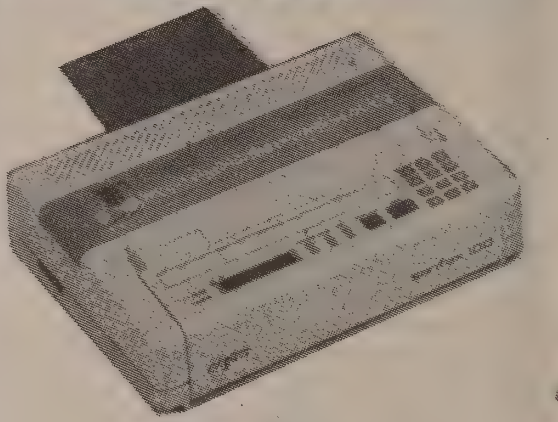

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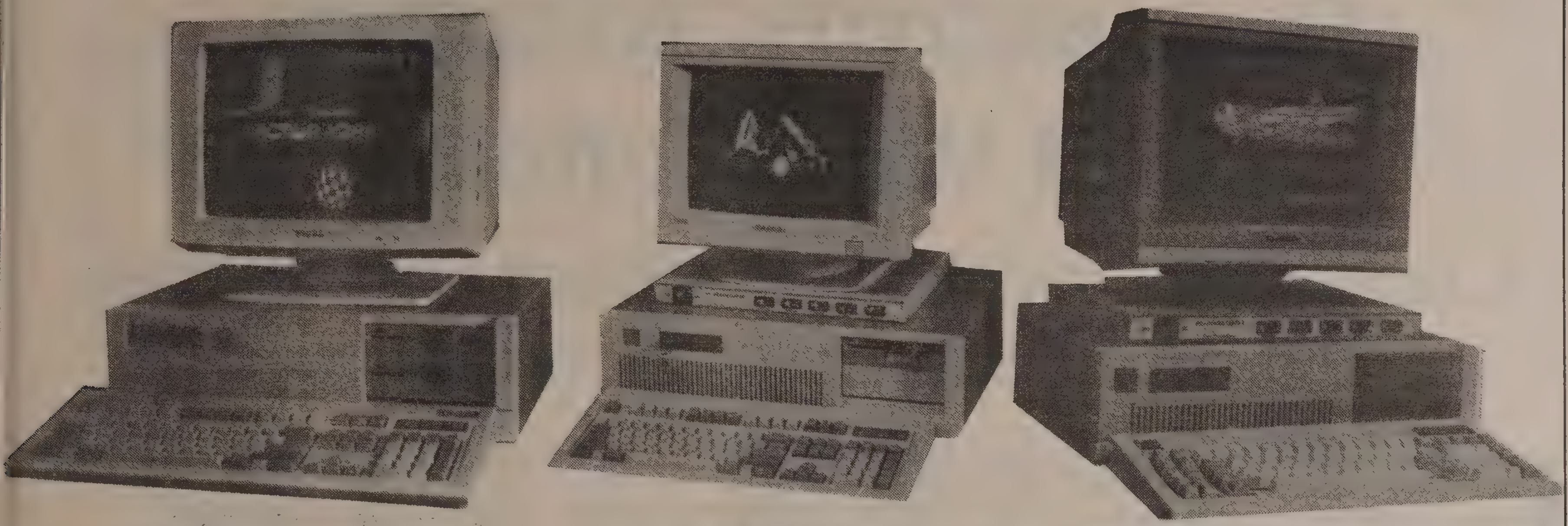

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MAC-PC CONNECTIVITY

BY ROBERT BEAUCHAMP

Connectivity, Graphics And WordPerfect

A Story Of Frustration And Missed Opportunities On The Connectivity Battleground

If you've been reading this column regularly, you've learned of a number of products which aid you in transferring and converting files from an IBM PC or compatible to an Apple Macintosh. In the beginning, this sounded like a tremendous feat in itself. Now, however, we know that it is possible and even simple.

Up until now, however, the files we've been transferring back and forth and converting, to the delight and amazement of our friends and family, have been word processing, database and spreadsheet files. What these files have in common is that they are text based. In other words, lots of words and numbers but no pictures.

One thing nobody seems to be talking about in these early days of the connectivity movement is how to transfer a file containing *graphics* from one environment to another. And there is a good reason for this: it's not easy.

If it were, I wouldn't have to relay to you this terrible story about about a warrior in the trenches of the connectivity battleground. It's a fictional story, true, but so was *All Quiet on the Western Front.*

While this story ends sadly, we're not stopping our mission here. In the next few columns we'll be exploring this issue of connectivity and graphics; we hope to find some solution that allows you to transfer graphics files as easily as text files, crushing the evil forces of incompatibility once and for all.

A Sad Tale

This is the story of Cynthia, a mild-mannered desktop publishing manager at a medium-sized firm in downtown San Francisco. During the day she is known as the one who gets everything done nicely and on time. But at night she is a stalwart fighter in the war to overcome incompatible file formats and entrenched departments who've chained themselves to one type of machine and won't change, no sir, not in a *million* years.

In the twilight hours she writes proposals saying why she needs a Compaq 386 *and* a Macintosh II. She strings wires across the office, cracks open computers and puts in add-on boards, and networks big screens and laser printers until she can satisfy the needs of the hip marketing people with their Macs and the stodgy accountants with their PS/2s with equal ease and success.

One day Cynthia was browsing in her favorite software store when she saw two new products on the shelves. *WordPerfect* 5.0 and *WordPerfect for the Macintosh.* "Great!" she cried, "this is exactly what our office needs!" She quickly ran up to the office and convinced her reluctant manager to shell out the $1000 for both applications, including tax.

The reason that Cynthia was so excited is that, as a regular reader of *MicroTimes,* she knows that when you have to operate in both the Mac and PC world it's best to pick out an application that has both Macintosh and PC versions. This is because they contain translators that let you open up files from the other version without any muss or fuss.

She was also excited to see that *WordPerfect* 5.0 for the PC has *graphics*! Including a cache of clip art. This, combined with a columns feature, headlines, style sheets and Bitstream fonts, allows for actual desktop publishing with nothing more than a word processor.

The thought of transferring files to the Mac with its graphical interface simply made her head swim.

But as she started to work on this project and had other employees experiment with the applications, both good and bad reports began to reach Cynthia.

First of all, and probably worst of all, is the sad news that *WordPerfect for the Macintosh* files and *WordPerfect* 5.0 files are *not* compatible. Not only are they not compatible, but they are not even directly convertible. You first have to convert the *5.0* file into a *WordPerfect version* 4.2 file and then open it up on your Mac. In the reverse, a *WordPerfect* Mac file has to be saved as a 4.2 file to be used on the PC. (Apparently this is being addressed in a future release.)

One thing nobody seems to be talking about in these early days of the connectivity movement is how to transfer a file containing GRAPHICS from one environment to another. And there is a good reason for this: it's not easy.

Why has WordPerfect strayed from the path that its major competitors, Microsoft with *Word* for the PC and Mac and Ashton-Tate with *MultiMate* for the PC and *FullWrite Professional* for the Mac, have been so careful to follow? Why does it seem that one hand not only doesn't know what the other is doing but doesn't seem to know that the other hand even exists and is connected to the same body?

The reason is graphics. *Word* and *MultiMate* don't feature any graphics functions. *Word* doesn't even take advantage of Microsoft's own graphical interface in *Windows* 2.03 Presentation Manager. It's relatively easy, then, for these applications to convert their files from one system to another.

WordPerfect 5.0's graphic functions place it head and shoulders above the competition in the high

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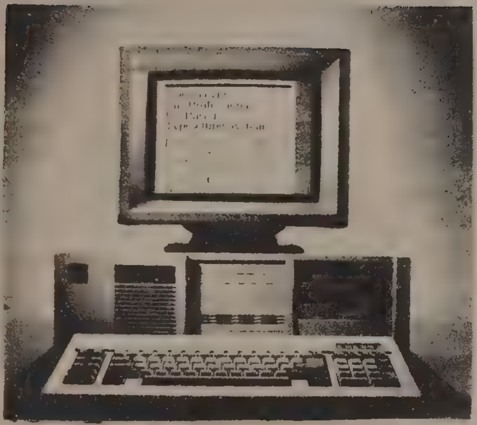

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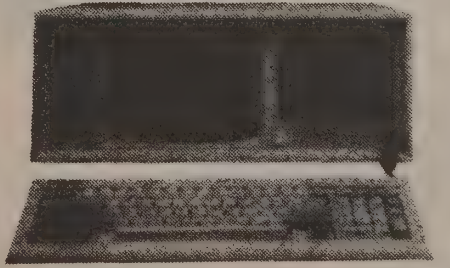

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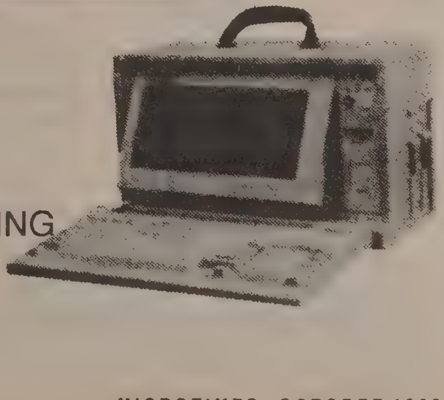

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** PRICES AND SPECIFICATIONS SUBJECT TO CHANGE W/O NOTICE* end word processor market. Before you get the idea that it is some kind of Macintosh application for the PC, however, it is important to understand that what *WordPerfect* 5.0 offers is a preview function that allows you to see what the page will look like when it's printed. While you're working *WordPerfect* looks pretty much like any other word processor.

To place clip art or other graphics in a document, you must first create a box designed to your specifications, which includes the name of the clip art file you wish to use. In the regular word processing mode you will see the outline of your box but there won't be anything in it.

When you choose the preview function from the print menu, you're faced with an image to warm the heart of any EGA or VGA card owners. You get an almost-WYSIWYG picture of what your page will look like, including fonts, columns, headlines and pictures.

WordPerfect 5.0 imports a wide variety of graphic formats including *PC Paintbrush* , *GEMPaint*, *AutoCAD*, *Windows Paint*, and believe it or not, *MacPaint*.

The fact that *WordPerfect* 5.0 will import Macintosh graphics makes it even more sad that WordPerfect didn't make the files of the two versions, as difficult as it may have been, compatible.

Meanwhile, Back At The Mac...

While Cynthia was getting rave reviews from the PC users in her company for *WordPerfect 5.0*. She was getting a department-wide raspberry from the Mac users for *WordPerfect for the Macintosh*. While it has some impressive features that we've been waiting a long time to see on a Mac word processor, such as a 115,000-word speller and automatic generation of indexes, lists and tables of contents, there are two major flaws that ruin it for the user.

The first is that the page you're working on *doesn't fit on the screen*. That's right, the default setting of the margins means your text slips off the right-hand edge of the page and out of sight. WordPerfect, out of kindness I suppose, supplies a mini scroll bar at the bottom of the window to view what the people in marketing are calling the "phantom 1/2 inch" or the "1/2 inch WordPerfect forgot." Shades of the Osborne.

You can certainly change the margins or the window size if you wish, but you'll have to do that for every document you create. True, *WordPerfect* does automatically move the whole page over while you're typing a line so you can at least see what you're writing. There is nothing more annoying, however, than not being able to just glance at your document and read it, instead of having to use that stupid little scroll bar for every line you read.

The second major flaw is so annoying to the user that it makes using *WordPerfect for the Mac* just about prohibitive. While you're typing away, the words on the screen flicker. They don't flicker when you're not typing, just while you're working and, heaven forbid, looking at the screen. This happened on a one megabyte Mac Plus. If one megabyte isn't enough memory to run a word processor without seeing the actual flicker while the screen refreshes itself, then the thing is too big.

The Macintosh is already notorious for its own barely noticeable flicker. Add to that *WordPerfect*'s Las Vegas style flashing and there isn't any user who wouldn't be driven off the edge.

By this time Cynthia was pretty despondent. While *WordPerfect* 5.0 features encourage PC users to access vast volumes of available clip art and start caring about what their documents actually look like, she knew for the most part that its graphics capabilities are limited. Without the use of a mouse or pull-down menus, and burdened with a heavy reliance on function keys, there isn't the fast paced cut-and-paste that she's used to. While the page preview looks nice, you can't edit or manipulate it in any way. Compared to any graphics-based word processor or page layout program, *WordPerfect* 5.0's features are clumsy to use.

And of course, *WordPerfect for the Macintosh* was a total bust.

No Cigar

WordPerfect Corporation had a chance to grab the brass ring. There is a great need for an excellent high end word processor for the Mac, a word processor for the PC that utilizes graphics *and* easy-to-use pull-down menus and a mouse. And of course, to the connectivity-minded, there is a need for full compatibility between the two of them. Already becoming the dominant force in the PC word processing market, WordPerfect Corp. could have grabbed the lion's share of the total market and made the competition really scramble.

Instead, *WordPerfect* is just another horse on the merry-go-round. Sure, it may be the prettiest one, with the most gold paint, but its still just another horse nonetheless. Someone else is left to grab the ring.

As for Cynthia, the last time I saw her she was down at the software store looking at Aldus' *PageMaker* for the Mac and *PageMaker* for the PC. Which is what we'll cover next month. ☐

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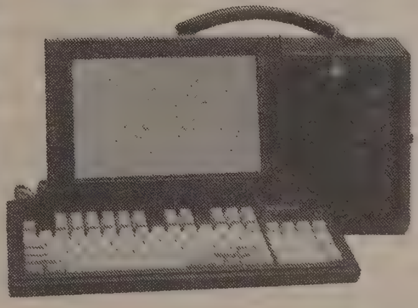

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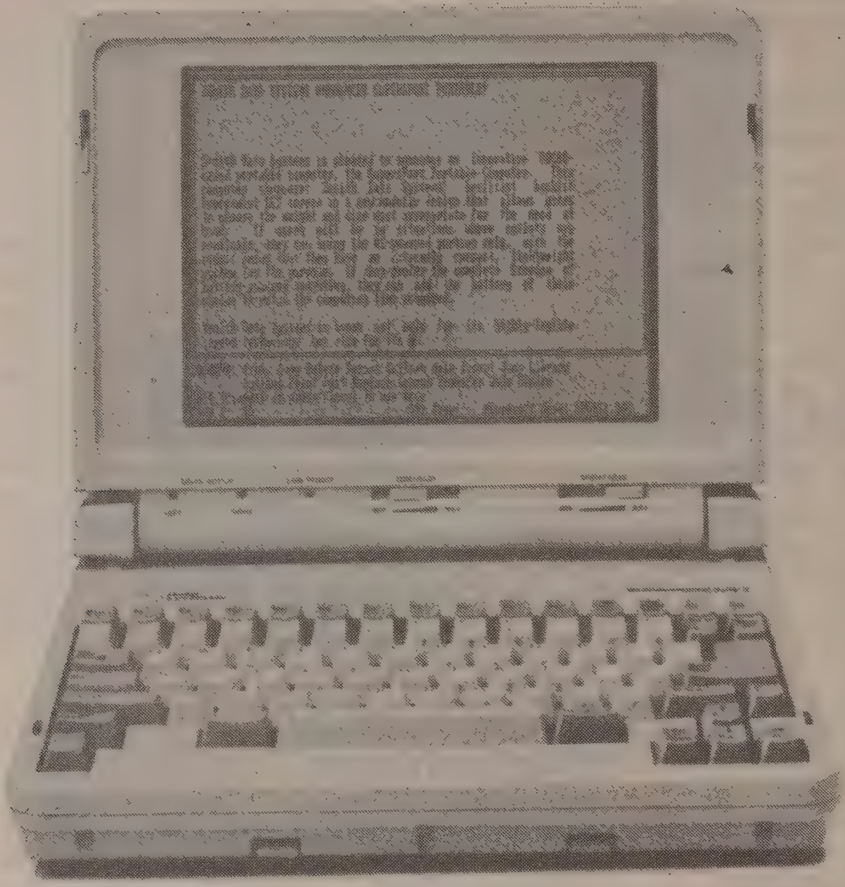
Zenith's Second Generation Portable: The SuperSport Laptop

By Ed Kahn



Once considered a niche market, the laptop business has undeniably become a vital part of the mainstream computer industry. Zenith has just come out with a new line of laptops ranging from an entry level 8088-based PC-compatible unit all the way up to a super-powerful 80386 machine that boasts speed rivaling the fastest desktop models.

The introduction of second generation machines speaks to the maturity of the laptop business. Zenith, considered by many to have the best laptop for word processing applications, has just replaced its model 183 with an updated unit called the SuperSport, generally available at a discounted price of about $2500. The SuperSport boasts a number of refinements and additions to guarantee its position as one of the best in its class.

The new portable, like its predecessor, offers a backlit LCD display clear enough to make it possible to work on the machine hour after hour without serious eye strain. The machine offers the additional capability of using a conventional CRT monitor, which can plug into the portable. The SuperSport is designed so that its built-in LCD can fold all the way back and slide under an optional stand ($49.00) which can hold a CRT. This gives a convenient setup that begins to rival a desktop computer. The main drawback is that the laptop does not support an EGA display, making its use with a color monitor unacceptable for long term word processing. If not for this limitation, I could seriously consider using this machine with a good quality color monitor in lieu of a desktop computer. This arrangement would allow you to have a monitor at home and at the office and carry the portable back and forth.

The keyboard of the new Zenith is well designed; while it does not have the function keys laid out like an XT, one quickly becomes used to these keys strung across the top as they are on an AT. And while there is no numeric keypad on the keyboard, there is an embedded numeric keypad within the standard keyboard which is accessible through a combination of keys which lock a key cluster into the numeric configuration. An optional numeric keypad ($99.00) is also available.

Zenith has a host of options available for the new SuperSport. The most popular of these are 1200 and 2400 baud Hayes compatible modems ($299.00 and $549.00) which can be installed internally by the user. Although I have yet to use either of these, the documentation that comes with the computer includes a hefty section on their use, suggesting that there will be no surprises in store for those who rely on a modem. Other popular options include a numeric coprocessor ($285.00), which is user installable, and an additional megabyte of RAM with EMS (Extended Memory Specification). This latter option is installable only by a service technician.

Desktop Connectivity

Although portable computers are getting good enough to serve as the only computer, the majority of laptop users still use these machines in conjunction with a desktop unit. The SuperSport, like most laptops, uses 3.5" floppy disks. This may introduce some compatibility problems as so much software and data is available on 5.25" diskettes. To bridge this gap, Zenith has built in a port on the back of the unit which allows an external 5.25" disk drive ($399.00) to be connected to the unit. For my money, however, I would prefer to buy Traveling Software's amazing Lap-Link ($129.00) which allows the rapid transfer of files from another computer onto a laptop. This product should be standard equipment for any user who needs to transfer material—either programs or data—between any two MS-DOS computers. It comes with 3.5" as well as 5.25" disks and a cable that will work with any combination of ports the two computers being connected offer.

The SuperSport has a number of new design features that make it a good deal more flexible than its predecessor. The most important design modification is a removable battery pack.

Zenith and some other manufacturers have wonderfully rugged and convenient carrying cases available for the SuperSport. The Zenith model, which lists for $59.00, has a padded compartment for the computer and battery pack. In addition, there is a large compartment that can hold the

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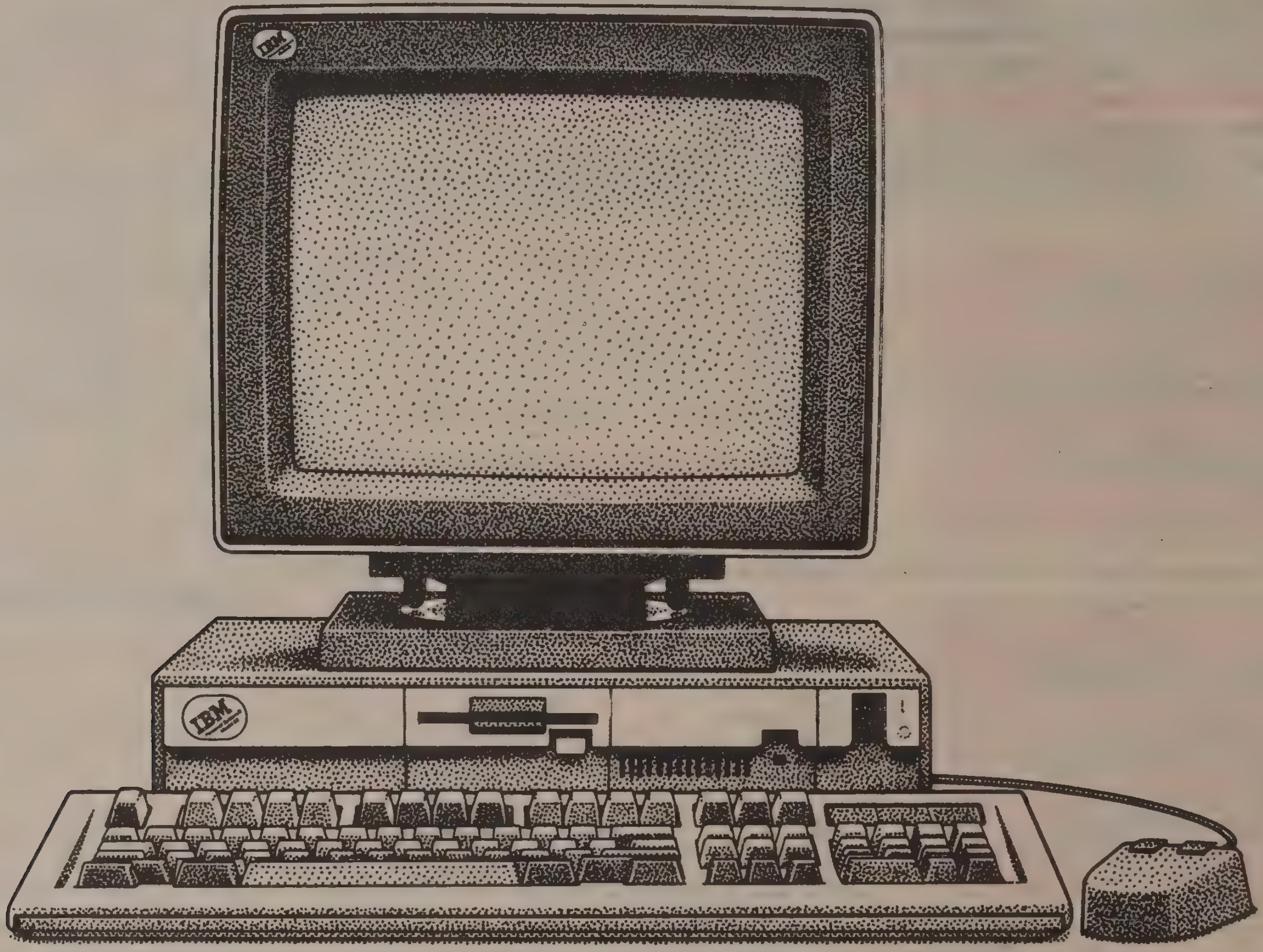

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The SuperSport has a number of new design features that make it a good deal more flexible than its predecessor. The most important design modification is a removable battery pack. This offers a number of advantages. Most importantly, if battery operation is not the major reason for using a portable, the weight and size are considerably reduced. The basic computer is 12.2" x 12.2" without the battery pack. Depending on your choice of battery—two different packs are available—the depth of the unit will be increased by an additional two or three inches. Likewise, the overall weight of the unit will be decreased by a pound or two.

But more importantly, once the battery module is removed, all of the inconvenience of a battery operated computer goes as well. Battery operated computers satisfy a specific need, but certainly a lot of problems are eliminated when a computer is operated from a plug-in power supply. No more will you be interrupted by a low power indicator flashing, ringing or buzzing. No longer must you be concerned about saving every bit of power you can by shutting down the backlit display, limiting disk drive access or turning off the modem.

Nevertheless, when you do need a portable power supply, your fully charged battery pack can be easily attached to the computer and you can be assured of up to three hours of portable computing time. The recommended charge cycle is from eight to twelve hours for a full charge. Likewise, it is recommended that when you do use the battery you do not recharge until the computer is completely discharged. Otherwise, you will shorten the capacity of the power pack.

Other design changes have made the SuperSport the most attractive unit in its class. The disk drive has been moved from the top of the unit to the side, and all of the controls for the display have been moved to an area immediately below the screen itself. All in all, the SuperSport is sleeker and trimmer than its predecessor, with the width of the overall unit slightly larger than the keyboard itself. The 20-megabyte hard disk seems quieter than its predecessor.

The basic computer comes with the battery pack, DOS (including full documentation), a power supply, and a User/Technical manual. The manual is well written and amazingly complete in its coverage. And while the organization is clearly set forth in the table of contents, I still have a hard time knowing how the first-time user is to be expected to get the machine up and running.

Coincidentally with my reviewing the SuperSport, a friend purchased one and asked me to help him get started. The store where he purchased the unit gave him the necessary boxes and sent him on his way. He read the documentation, but was unable to understand most of it. Finally, I began to help. He loaded the operating system into the A drive and a menu for getting started appeared. But he did not know what to do with this.

In reality, setting up the machine was almost automatic. After he answered a few questions, the unit configured itself and he was ready to go. But his life could have been made a lot easier if Zenith had included the simplest and most basic step-by-step instructions designed for the least sophisticated user who has no background in setting up a computer. I could write such an addition to the manual in less than fifteen minutes, so there is no excuse for not taking the final step after they have gone to the trouble of making the setup procedure as simple as it is. Nevertheless, once the computer was up and running, my friend stayed up all night exploring its potential.

I have no reservation in recommending the Zenith SuperSport to anyone who wants a laptop. The more I use the machine, the more I like it.

Resources:

Lap-Link
Traveling Software
19310 North Creek Parkway
Bothell, Wa 98011
(800) 343-8080

SuperSport Portable Computer
Zenith Data Systems
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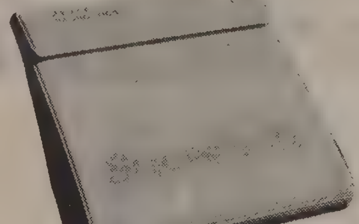

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Kaypro 2000+ Laptop

New Portability From Kaypro

By Robert D. Athey Jr.

The Kaypro II was my original personal computer, and it was portable enough for me to carry it off to Cleveland one week every month for six months in 1983. At 28 pounds, many called it luggable, rather than portable, but it fit under airplane seats, and I enjoyed showing it off. It had no internal modem, as such things were introduced a year or two later, and I was happy with 198K storage on my SSDD disks, as that's equivalent to a lot of paper (60+ pages). The 64K RAM was fine, as the (CP/M) programs ran well.

The years have passed, and the Kaypro 2000+ came my way. It's about half the weight of the old Kaypro II, runs the MS-DOS operating system and has lots of features much advanced from the old Kaypro II. It has an internal modem, a battery, two operating speeds (4.77 and 8.0 MHz nominal), two 3 1/2" 720K disk drives, 768K RAM and more. The Kaypro people bundle it with MS-DOS 3.21, *WordStar* 4 with all the related goodies, GWBASIC, and *Mirror* (a modem operating program). One little feature not seen on other computers is a little blue key. The documentation neatly explains the differences between this computer and the standard clones, with special sections dealing with the additional memory and with the blue key. It is well written and easy to understand.

Physically, the Kaypro 2000+ is just a little larger than a fat 8" x 11" looseleaf notebook. It comes with a built-in handle, which is great for carrying it about. When you open it up, the keyboard can be used at some distance from the rest of the computer with a 8-10" cable. The on/off switch is near the back of the opened-up surface in plain view, with the battery strength indicator and the screen contrast adjuster near the center. The screen brightness adjustment is just over the screen in the flipped up top. The keyboard array is a bit non-standard, but that's no big thing, as all my six computers have unique keyboards. Clock and calendar are in real time and seldom need adjustment (unless you run the battery down).

> **The NEC V20 CPU in this computer gives the former CP/M user an added benefit. Most old CP/M programs will run with the special emulation software available from various sources.**

The blue key is a special command key, just like the Control or Alternate key on most MS-DOS computers. Pressing blue with an "M" key turns the modem on or off, for instance. The "Blue + S" key selects the slower 4.77 MHz speed, and the "Blue + F" key strokes selects the faster 8.0 MHz speed. Nothing happens if you select the speed you are already running, but you'll get a warm boot with speedup when you select the speed you aren't running.

Turning on the computer is a visual experience. The first thing you see is a blue region and a white region, which converts to a bunch of blue horizontal lines. Then a succession of messages shows ROM boot up procedure and a check of the memories. Then, it goes into the autoexec.bat for the A: drive.

There are standard programs that allow the Kaypro 2000+ to use the extended memory, and they can be put into the config.sys and autoexec.bat files. The screen is quite readable, clear and bright even in sunlight. Certain angles of screen in

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sunlight give an appearance of shiny blue letters on a dull blue background, but it's blue on white in most lightings. Adjustment of the brightness (two fluorescent tubes are the backlighting) can give some flicker, but good adjustment avoids that. I hear complaints about problems seeing the cursor on laptop computers, but I find appropriate adjustment of brightness and contrast to see the cursor no problem on the Kaypro 2000+. The display is EGA compatible. One of the *PC Magazine* benchmark program features is an assessment of screen distortion. It's simply an adjustable circle with horizontal to vertical axis lengths compared, with 1.0 the measure of a true circle, and any other number an ellipse. The Kaypro 2000+ comes out at 1.5 or so, so there is a bit of distortion in that graphics are slightly flattened.

The outside of the case has each side loaded with openings for the needed I/O. There's a disk drive on each side (A: on the right), and printer ports next to each disk drive, with a snap-up plastic cover door over them. I'd expect those to break at the hinge eventually. The back side of the computer has the battery charger DIN port (uncovered!) and the telephone connection port for the modem (again, uncovered!) next to the handle. By the way, handle placement there is a good design feature, as it means the latches holding the computer closed don't have to be latched while you're carrying it.

Our evaluation, aside from the check on some games, included some word processing, some modeming and a lot of reading on-disk documentation that came with it. Among the word processing, I created the BAKUP user group newsletter and modemed it off to the BAKUP RBB. I used the shareware *ProComm* modem program because I didn't want to take the time to learn the *Mirror* program bundled with the computer. We also did up a MailMerge sending notices for an upcoming meeting, and plugged the Kaypro 2000+ into our HP DeskJet for printing. No problems, as all the cable connections we used matched, and the software bundled with the Kaypro 2000+ was easy to configure for what we wanted. *VP-Planner* ran my business monthly summary of income and expenses quite well, too.

I am unhappy with one feature in this computer. When the battery is running low, the indicator dial creeps over from the white (energized) section to the red (depleted) section on the display. But who's looking at the little indicator in mid-task? When I'm writing, I'm concentrating on the screen or the keyboard. When this animal runs low on power, it just shuts off—CRASH! I lost part of an article that way. Zenith's Z-181 has a flashing red light to warn you when the power's getting low; it would be nice if Kaypro adopted this method or included a little TSR warning program that flashes the message to screen.

In general, this is a good little computer. With the improvement in displays for the laptops in general, and on this one in particular, you can quite comfortably use this as a real laptop, rather than a luggable.

The NEC V20 CPU (instead of the Intel 8086/88) in this computer gives the former CP/M user an added benefit. Most old CP/M programs will run with the special emulation software available from various sources (*ACCELKAY* from Intersecting Concepts, *UNIDOS* from Microsolutions, *RUNCP/M* from from MicroInterfaces).

In general, this is a good little computer. With the improvement in displays for the laptops in general, and on this one in particular, you can quite comfortably use this as a real laptop, rather than a luggable. This one is of a size to fit easily on the tray table on an airplane, too. It's plenty fast, has lots of memory and good disk storage capacity. I'd like to have had it in my 1983 travels. (Kaypro, 533 Stevens Ave., Solana Beach, CA 92075, 619/481-4300.)

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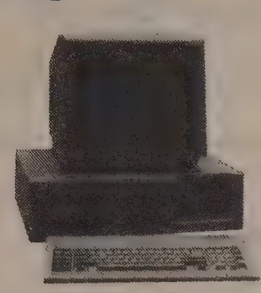

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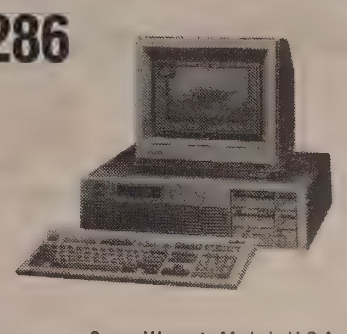

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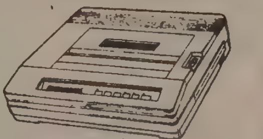

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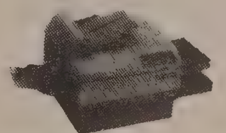

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Prodigy Or Problem Child?

By Brock N. Meeks

If you haven't yet seen Linda Ellerbee, Alvin Toffler or Mets manager Davy Johnson on CNN hawking a new online system called Prodigy, you're missing a classic piece of advertising history. But if you miss the ads, don't miss using the system; it may be the videotex industry's last great hope for pushing online information systems out of the ethernet and into America's living room.

Prodigy is a joint venture between IBM and Sears. It's a tag-team that pulls no punches. Both companies are going after the "upscale" market. "We want to make people's lives easier and more efficient," says Prodigy spokesman Brian Ek. According to Ek, Prodigy's target market consists of those more concerned about how they spend their discretionary time than their discretionary income. "We think that Prodigy will actually give people back some of the time that their day-to-day routines 'steal' from them," Ek says.

Prodigy plans on "stealing back the time" by providing online services that replace "in person" tasks, such as shopping. Using Prodigy, you'll soon be able to order groceries and gifts of all sorts. And when such mundane tasks are accomplished, you can even scan a travel database for the best "last-minute" trips to Tahiti or Paris. Punch in a credit card and take a cab to the airport — everything can be taken care of online, via Prodigy.

Beyond the buying services offered on Prodigy, there are several different news and information services to choose from. Each day Prodigy's news staff monitors the wire services (including some foreign news services)and the full text (such as it is) from *USA Today*, and "rewrites" the stories they find.

These stories are then placed in the news section of Prodigy ready for your perusal. "Why rewrite the news?" you ask. Actually, this is a common practice for all news media. The newspapers often rewrite wire service copy, and a radio station's "news" broadcasts couldn't survive without an editor rewriting the AP copy that continuously streams into the station. These rewrite editors are well trained in the skill of delivering only the essential facts. Prodigy draws its news staff from journeyman newspaper and broadcast journalists.

Prodigy's target market consists of those more concerned about how they spend their discretionary time than their discretionary income.

The news features of Prodigy won't provide you with enough information to finish your dissertation, but you won't be embarrassed at that dinner party because you haven't at least skimmed the day's top headlines. Again, that's Prodigy's whole intent: to provide you with tools to make your life more efficient, more productive. Yes, the news is a bit "light" on in-depth reporting. If you want in-depth reporting, pick up *The New York Times* or the *Washington Post*. Prodigy doesn't pretend to be a full-featured news provider. It's an augmentation to your personal information gathering routine. (Assuming, of course, that you have such a routine. You don't? Well, Prodigy makes it easy for you to start.)

In addition to the "hard news" features, Prodigy has some 40 experts contracted to write daily columns. The experts range from Jane Fonda on health to Howard Cosell on anything to Stewart Alsop on computers. Each column is a minimum of 50 words; however, they often run longer.

I know what you're thinking. How can any substantial information be provided in only 50 words? Answer: it's not easy. But remember, most of these experts write for a living anyway, and are skilled at delivering a lot of information within the cramped confines of a daily newspaper column.

So, what's the verdict on the Prodigy expert's columns? Varied. Some of the political columnists (Novak and Germond) provide salient tidbits of inside political profundity — and, to my surprise, ahead of when it's published in the newspaper. Other columnists are boring and offer nothing more than what appears to be excerpted paragraphs from old columns or books they've written.

One of the more interesting aspects of these expert columns, however, is that you can send any of the experts electronic mail. Prodigy promises that you'll receive "a personal reply within 72 hours." They don't, however, promise that the personal reply will be typed in by the celeb columnist personally. And it's a well-known fact that some columnists are staffing up to handle the message traffic from Prodigy users.

But in the early going (San Francisco happens to be one of three test markets for Prodigy), it appears that columnists are indeed answering their own mail. No big deal, you say? Wrong. The appeal of this "online people magazine," as futurist and SRI technology analyst Tom Mandel calls it, is that you can "talk to the stars." Better yet: they "talk back." Sure it's a bit gimmicky, but there's something inside most people, including myself, that likes the idea of being able to personally correspond with "celebs."

There are many other services on Prodigy: from weather reports to sports to educational games for the kids (and one particularly cutthroat game called CEO that should appeal to any adult who's ever wanted to manage his or her own company in the fast track of corporate mergers and megalomania).

But is Prodigy going to live up to its hype as a great time saver? Is this system really a "prodigy" or a problem child in disguise?

The Prodigy Bug

Problems began to arise when several people in the Bay Area noticed that their subscription packages were long overdue. (Prodigy costs a flat rate of $9.95 a month. That's lower than most cable TV costs.) The packages contain both special log-on software and documentation. The problem, at face value, is rather amusing. An online service, supposedly noted for saving time and increasing the efficiency of one's day to day routine, couldn't even deliver the software in a timely manner.

The problem, as outlined by Prodigy execs, was "demand outstripping supply." I choked on the answer. And for good reason: I was told by

continued on page 114

Brock Meeks is a San Diego based columnist and journalist. He claims to have been a child prodigy and says he has emotional scars to prove it.

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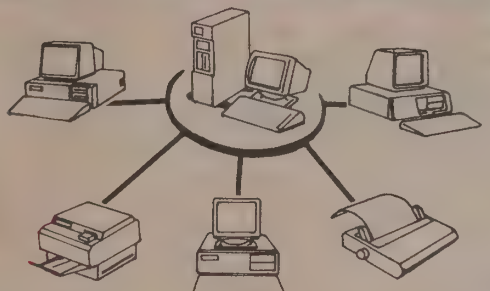

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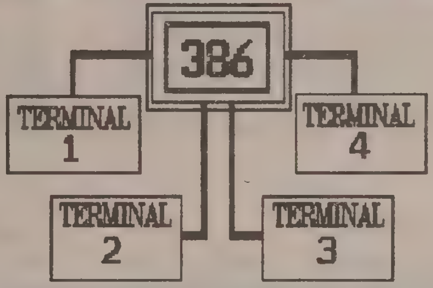

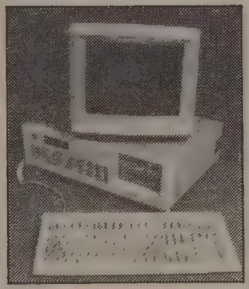

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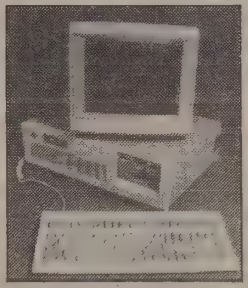

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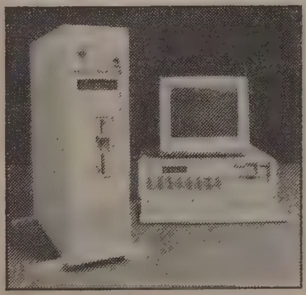

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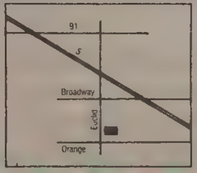

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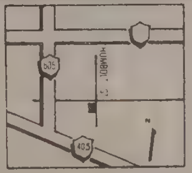

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Professional? A Tale Of Betaware

By David Hawkins

According to an advertisement published earlier this year: "*Publishing Partner Professional*, the new version, is now available..." A number of people read the ad, assumed that Soft Logik, *PPP*'s publisher, was saying that the new version was available, and sent in their money. The ad did list a lot of nice features that people wanted in a desktop publishing program. Some of the features aren't available in *PageMaker* — and evidently aren't available anywhere yet.

The Wait

So some of us started calling Soft Logik and asking where our copy was. Soft Logik said they didn't know when they would be shipping the release version of *Publishing Partner Professional*. Various rumors came out from time to time about a release date, but most of us eventually settled into waiting and waiting and...

And Then!

Why, yes — it's a package in the mail from Soft Logik! And it contains *Publishing Partner Professional*. But there's a letter here that talks about bugs. But there is a promise of a free update when they get the bugs out. Well, let's give it a try, ok?

People used to *Publishing Partner* quickly noticed that there were some features missing in the new version. In *Publishing Partner* it was possible to do everything with pull-down menus, or to use some keystroke combinations to do some things faster. In *Professional*, everything has to be done with pull-down menus.

Those who were used to *Publishing Partner* noticed another problem: they couldn't read their *Publishing Partner* files into *Professional*. The new version didn't produce PostScript files.

It Gets Worse

And the new features? Well, it was hard to tell because trying a number of them crashed the program. The version that was shipped seems to crash even more than the version that was demonstrated at the West Coast Computer Faire.

> **A friend called me up after getting the new release, so I went over to take a look at it. We couldn't get it to print. Personally, I have no use for a desktop publishing program that can't print.**

It Doesn't WHAT?

A friend called me up after getting the new release, so I went over to take a look at it. We couldn't get it to print. (*Publishing Partner* had printed, and *Timeworks Desktop Publisher ST* had printed, but the new version would not print.) Personally, I have no use for a desktop publishing program that can't print.

So, Why Release It?

Why did Soft Logik release a buggy version of *Publishing Partner Professional?* A couple of months ago they asked on GEnie if people who'd already sent in their money would rather receive a beta test version or keep waiting for a final release. There was overwhelming support for seeing the beta version.

However, people who kept calling Soft Logik and asking if *Professional* was released yet were simply told that it was being released and that a copy would be sent to them. They were not told that it was a beta version that was full of bugs.

Actually, they didn't release it to everyone. I didn't get a review copy. I guess they had better sense than to send a buggy beta version to a reviewer. I'm grateful to my friends who let me watch while they tried to run the beta version. And I'm real happy that I didn't take advantage of Soft Logik's special offer to send them $50 before April 1, 1988 for this version.

And the last time I checked, dealers had not received the beta version either. Some of us have all the luck, I guess.

What To Do?

If you want a working desktop publishing program, I'd recommend *Timework's Desktop Publisher ST*, which I reviewed earlier this year. If you really want a program with the list of features that *Publishing Partner Professional* is supposed to have, then wait for a working version to show up at your dealer's store. Your dealer should know when the real release has shown up.

Support Your Local Dealer

From time to time in these columns I recommend checking with your local dealer. There's a couple of reasons I say that. One is that the dealer knows what products are available. Sending off your money for software that doesn't exist is just a waste.

Also, a dealer will know more about a wider range of software packages. I can only cover one or two products a month, whereas a dealer can discuss the details on a number of products. The dealer knows more about the company behind the product: Do they do free upgrades? Have they been releasing bug fixes? Does it look like they'll be around for a while?

Dealers can also find the software that fits *you*. I tend to review what appeals to me, but you might be looking for a particular feature or function that I didn't mention or look for.

Personally, I rely on dealers. I check with them for information, gossip and speculation. I prefer to review products that you can get from a local dealer. And because I rely on dealers — I buy software from them.

While I'm nagging, I might as well go ahead and say, "Don't Pirate Software." The Atari ST is a small part of the computer market and we need to support those developers who are willing to write good software for us. I'm not saying you have to buy bad software; just that when you find a good program, buy your own copy. If you find a very good program, send them a letter! If you want good software, focus on what you can do to make it happen. ☐

Copyright © 1988 by David Hawkins. All rights reserved. *David Hawkins is the host of the Atari conference on The WELL (415/332-6106); send email to dhawk. He has one of the first Atari ST 1040s sold in San Francisco, both monitors, an Okimate 20 color printer, and disks all over the room.*

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What's Going On At Epyx?

By Matthew Leeds

Usually all I cover in this column is news and events that relate more or less to the Amiga. But once in a while something catches my attention that just cannot be ignored. And in some ways this particular item of interest does relate to the Amiga.

It started with the hiring of David Morse as Chairman and CEO by Epyx several months back. For those of you who don't know who David Morse is, dig out your early articles on a company known as Amiga when they were first developing a computer known as the Lorraine. Mr. Morse ran Amiga.

Then a press release shows up in the mail from Epyx that says both R.J. Mical and David Needle have been hired to work on a "non-software product." Mical may be best known as the father of Intuition (the Amiga's user interface), or one half of the dancing fools. Morse handled the system design, project coordination and engineering aspects of the manufacturing start-up on the Amiga. After leaving Amiga and before landing at Epyx, he worked at Apple as the principal engineer developing high performance, low cost computers.

This gets me to call friends at Epyx and ask questions. No one will talk. Apparently there is a closed-off section of the facility at Epyx with security that would rival Fort Knox. When I ask R.J. he claims that Epyx is working on a solar powered flashlight.

Then another press release shows up. Now Richard Rice has been hired to head up program management for the Consumer Electronics Division. The what division? Oh yes, Epyx markets a joystick, not just software. That must be their Consumer Electronics. Funny, didn't Amiga start by marketing joysticks? Rice worked for Apple and Amiga also. At Apple he oversaw the first production of Apple IIes and IIcs in Dallas and Singapore, and at Amiga he handled production of A1000s in Japan. The press release says, quote, "Rice will handle all aspects of moving Epyx consumer electronics products from the development stage into production."

Now you don't have to be a rocket scientist to figure out that something big is going on. You don't hire all these high-powered guys just to build a better joystick, or even a solar powered flashlight. There have been other people hired as well, programmers, artists, all top notch.

Apparently there is a closed-off section of the facility at Epyx with security that would rival Fort Knox. When I ask R.J. Mical about it, he claims that Epyx is working on a solar powered flashlight.

Now the computer software business is a little strange. It goes in cycles. A few years ago video game cartridges were a glut on the market. Mediagenic (nee Activision) almost went belly up when the market went south. More than one housing subdivision is built on landfill full of ET VCS cartridges. But times have changed, and Nintendo and Sega are making money hand over fist these days using old eight-bit technology. The time is ripe for a sixteen-bit video game cartridge system that takes full advantage of the advances in graphics we have today.

I rarely predict anything. The last time I did I got a nasty letter from someone who didn't like what I had to say. I hope I don't offend anyone this time, but I'd like to take a shot at what's going on at Epyx. I think that they are developing a (ugh, I hate to use the phrase) state-of-the-art video game system. I've been told that they plan on making an announcement at January CES in Las Vegas. I'll keep you posted.

Miscellaneous

As I mentioned above, the computer software business gets strange sometimes. However, it rarely gets as strange as a call I received last month from Jim Cuomo. It seems that Mr. Cuomo is a musician and composer. You may not have heard of him, but the odds are you've heard his music. It seems he's responsible for much of the music on *Defender of the Crown*, *S.D.I*, *Sinbad and the Throne of the Falcon*, *SWAT*, *Zombie*, and other computer games.

To keep it short, I'll give you a quick quote: "It should be noted that to hear all this music one must not merely own the appropriate computer and game, but must be able to win the game, since some of the best music is reserved for a climatic finale. If one loses, one never hears the ending." Mr. Cuomo has published a CD-Audio disc of his work. "Film soundtrack albums started in the '50s as by-products and now are everywhere. Maybe there will even be a Grammy catalog in a few years," he speculates. If you're interested in a copy, you can send a check for $15.00 to: Pigeon Music, 11684 Ventura Blvd., #520, Studio City, CA 91604.

Contrary to public rumor, Byte by Byte is not leaving the Amiga market. There has been some discussion on the networks and in print that Byte by Byte was going to abandon its Amiga product line in favor of the Macintosh. This was prompted in part by an article that appeared in a Macintosh publication announcing Byte by Byte's plans to produce a version of *Sculpt 3D* for the Mac. I received a call from Scott Peterson, president of Byte by Byte. He wanted me to reassure all owners of Byte by Byte's products that they plan on both continuing to support their current Amiga products and to produce new ones. Another rumor squashed.

Additional rumors have surrounded Aegis. There have been some changes in personnel and some of the original players have left, notably Bill Volk to Mediagenic and John Skeel to Electronic Arts, but the company is still committed to the Amiga. Aegis will be releasing *Lights, Camera, Action*, a desktop presentation package that combines IFF pictures, ANIM animations, Sonix scores and IFF sampled sounds, and Modeler 3D, a three-dimensional object generation application to supplement *VideoScape 3D*.

Just released from Electronic Arts is *DeluxePhotoLab*, a combination paint, print and image processing package. The product consists of three separate modules. The first is a paint program that supports all resolution modes on the Amiga including HAM and halfbrite. Second is an image processing program that can be used to create special effects, convert between resolution modes, manipulate palettes, create color separations and resize images. The third module is a poster printing application. It accepts any IFF image and can print posters up to 10 feet by 10 feet. I've used it and it works very well. It uses the KS/WB 1.3 printer drivers (included) to produce excellent results. I printed a two-foot by three-foot poster from a high-res IFF file on an HP Paintjet printer and it looked great. ☐

Matthew Leeds has been involved in the high tech field since he blew up his bedroom playing with a children's chemistry kit. He has been using Commodore computers since 1982 and has a strong interest in photography, video, graphics and related fields. He currently works for Infinity Software

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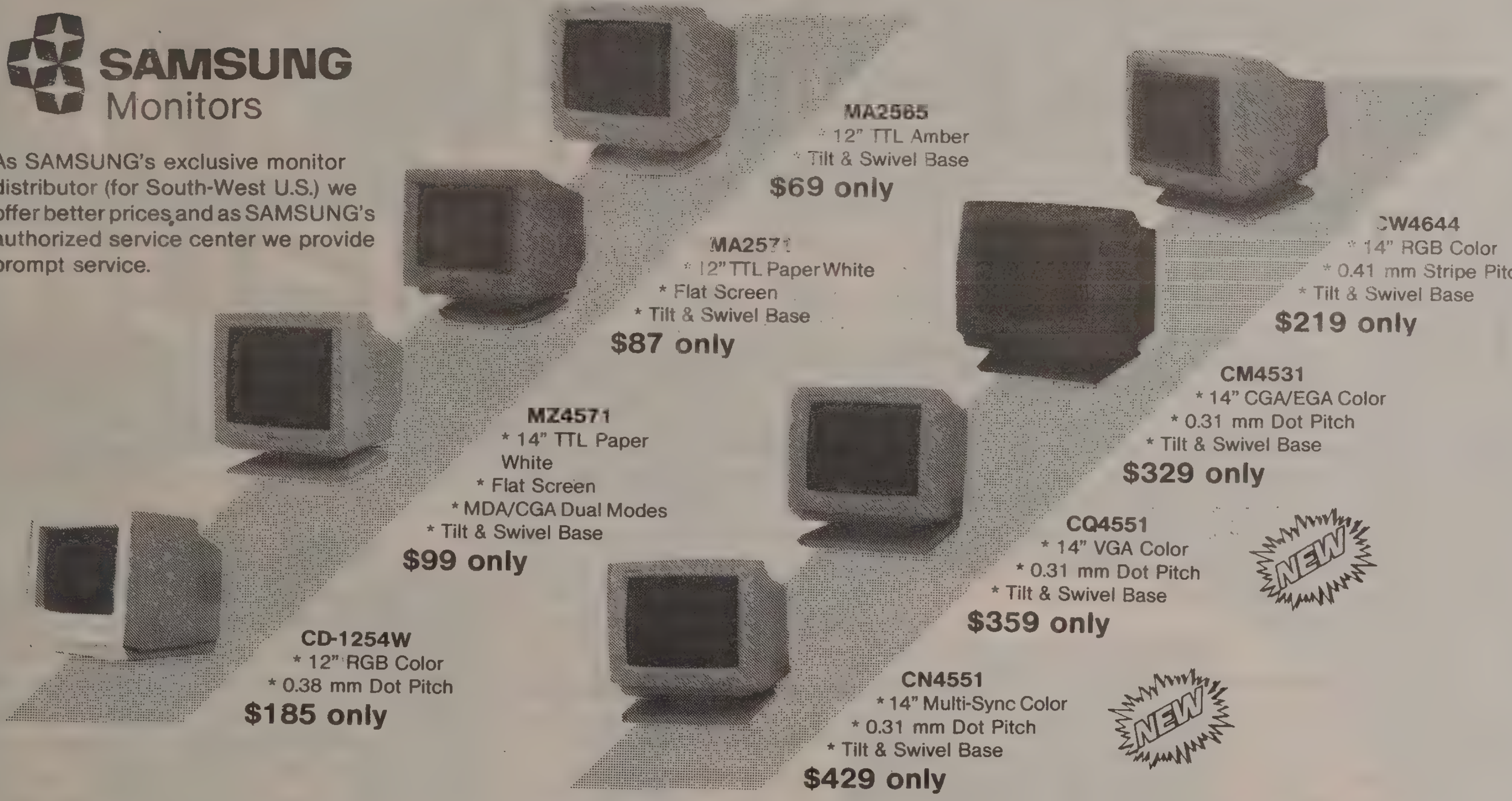

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Ten Rules For Buying An Apple

By Mike Markowitz

In honor of Computer Learning Month (October), I thought it might be appropriate to set down some things I've learned about making an investment in our favorite computer. These rules are aimed primarily at parents considering the purchase of an Apple for school-age children, but they should be of interest to teachers, home-business operators and anyone else who is shopping around, particularly newcomers to personal computing. These are highly personal opinions, and you are free to differ, in print, electronically or by picketing my house.

RULE 1: Don't Buy A II+

The Apple II+ went out of production in 1983. Many show up for sale at seemingly low prices, as owners decide to trade up to newer systems. Don't be fooled by the low price. The II+ is now a very limited system. It is difficult to expand the memory beyond 64K, or to run under ProDOS (Apple's "new" operating system) unless software is specially patched. Compared to today's systems, the II+ has more chips, and tends to run hotter. There is still a third-party market for replacement parts, but it cannot last forever. The keyboard also lacks some very useful special keys.

Exception—Lab Equipment. Every rule has an exception. The II+ is a very good bargain as a piece of lab equipment provided you have the skill to tinker with it. For counting events, monitoring temperature or controlling anything electrical or mechanical, there are plenty of plans, kits and parts available (most user groups have at least one old-timer who can dig the references out of his garage if you ask nicely). For years to come, Apple II+s will be at the heart of many award-winning Science Fair projects. If you need a CP/M system for some reason, an Apple II+ with a CP/M card is also a reasonable option.

RULE 2: Don't Buy A IIc

The cute little Apple IIc was introduced in April, 1984 as an overpriced entry-level computer. With 128K and a built-in disk drive, it can run just about any Apple II software. It has been poorly supported both by Apple and by the third-party market. It is not really portable, since it needs to be plugged into a wall socket, and the flat-panel displays were a bad joke. The upgrade possibilities for the IIc are expensive and limited. For example, there is presently no way to attach a hard disk.

Exception — If you really need something transportable, and you don't mind keeping one monitor at home and another at the office, the IIc might be an option.

> **You should understand that the nifty, exciting, hot software will increasingly be written for the IIGS and it won't run on earlier Apples.**

RULE 3: Don't Buy A IIe

Particularly don't buy an "unenhanced" IIe — you will just have to lug it to a dealer and pay $70 to have it "enhanced" (a matter of swapping some chips or possibly the motherboard). The new "platinum" IIes with numeric keypad are neat, but this is clearly a computer at the end of its life cycle. The Apple IIGS has a much better price/performance ratio.

Exception—If you can get a IIe real cheap, you can count on years of good service from it, but you should understand that the nifty, exciting, hot software will increasingly be written for the IIGS and it won't run on earlier Apples.

RULE 4: Don't Buy At Christmas Or Back-To-School Time

The computer retail business is almost as seasonal as the nectarine market. Prices are highest when demand is highest—far more than half the computers intended for kids are sold in December. The best deals are usually to be found in the dog days of summer and during the frantic January-February inventory clearance.

Exception — Apple prices equipment at the very top of what the market will bear, and then deals out lavish rebates to favored market segments. A good rebate deal can cancel out the seasonal price fluctuations.

RULE 5: Don't Pay Retail (If You Can Help It)

Secondhand is a great way to buy an Apple II. Unlike cars, these machines don't wear out (with the possible exception of some mechanical components in disk drives). Apples are very reliable —if something is going to fail at all, it tends to fail when the system is brand new. You can locate good deals in your local classified ads, through an Apple user group, or any online service with an Apple bulletin board.

Apart from the lower price, buying a pre-owned computer often means you are getting a complete system: all the cables and accessories are there, and everything works with everything else. The seller may be expecting to recoup a large percentage of his original purchase price, so you may need to give him a short lesson in reality testing by offering less.

Another exception — If you're a teacher or school employee you may be eligible for a hefty discount. You have to ask your Apple dealer for details—he won't volunteer the information, and the kid you talk to in the store has only been working there a week and will probably have to ask the boss. Some very large corporations also have employee purchase agreements with Apple, but this may only cover Macintosh hardware, so you have to read the fine print.

RULE 6: Don't Buy A Clone

Two companies made Apple II clones legally. Franklin Computer (Pennsauken, NJ) has gotten out of the market, Video Tech (Hong Kong and Northbrook, IL) is still in it. A variety of illegal Taiwanese Apple II clones managed to slip through US Customs and show up occasionally on the secondhand market. In general, clones are a headache, especially for beginners. There are irritating hardware and software incompatibilities,

continued on page 116

Mike Markowitz is a computer engineer for a large Southern California aerospace firm. He has been writing about Apple II computing since 1984. You can reach him on AppleLink (MOUSKOWITZ), The Source (SIG060) or GEnie (M.MARKOWITZ2).

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USER GROUP NETWORK

By Mary Eisenhart

Well, the propaganda mills of the **Silicon Valley Computer Society** have been working overtime this month, with the result that we've been deluged with notices for interesting events from these folks. So we hereby pass the news along to you.

First of all, the not-to-be-missed experience of hearing **Philippe Kahn** can be yours if you attend the SVCS main meeting on September 23. Kahn, as you undoubtedly remember, is the founder and CEO of Borland International, and never fails to have outspoken and controversial comments. *MicroTimes* sez check it out.

The meeting will be held at 7 pm on September 23, in the Oak Room of the Hewlett-Packard Building 48 on Wolfe Road. The meeting is free to SVCS members and $5 for non-members, and if you'd like more info, feel free to call *Jon Kennedy* at (408)226-0507.

Meanwhile, the **SVCS Artificial Intelligence Special Interest Group**'s September meeting is featuring a presentation by **Professor David Rumelhart** of Stanford on Neural Networks. Professor Rumelhart is one of the leading experts in the field of neural networks, so this should be an outstanding opportunity to learn more about this subject. The meeting is September 12 on the Stanford campus, and if you'd like more information, the person to call is **Rita Zokaei** at (415)574-8225.

Not to be outdone, the **Women's SIG** of SVCS will be meeting on September 26 to hear **Donna August**, director of operations for Intellicorp, address the topic "Managing Your Technical Staff." The meeting's at 7:30 pm at Hewlett-Packard, 5301 Stevens Creek Blvd., Santa Clara. Rita Zokaei is the person to call for more info on this one, too.

Also much in evidence this month are UNIX-related announcements. **David Harris** of the **PC-UNIX SIG** would like to point out that the group has changed its meeting day to the first Wednesday of the month; the location remains the AT&T Training Center, 1090 E. Duane Avenue, Sunnyvale, and the time is still 7 pm. This group helps beginners and experts pool their knowledge about the various types of UNIX running on Intel-based PCs. Dan **Kionka** and **Mark Dill** are the people to contact for more info—you can reach Dan at (408)432-1300 and Mark at (408)995-3966.

An increasingly valuable resource is the **Bay Area AT&T PC Users Group**, which supports users of AT&T 6300s, whether running DOS or UNIX. The group now has a newsletter which is full of useful information, including extensive listings of other resources. There's a North Bay section and a Silicon Valley section, both of which meet monthly. Call **Joe Mahoney** at (415)540-2219 for information on the North Bay section, of which he is president, and **Joe Lipsig** at (408)522-4114 if you're interested in the Silicon Valley section. Joe L. is the president there.

And finally, even if you can't tell **chmod** from **nroff**, **Dennis McNamara** invites you to call his BBS **/usr/school**, which operates 24 hours a day at (415)751-0898 and, according to Dennis, likes 7-E-1 parameters best. It's a general interest UNIX and C language board, and wizardliness is not a prerequisite.

Moving from the world of UNIX, we find ourselves in the realm of the orphaned TI 99/4A users, who are persistently continuing to use and enhance their machines in the face of much indifference from Texas Instruments. **Doug Moore** of the **LA 99er Computer Group** tells us that the group will be holding meetings on September 28 and October 26 at the Torrance Public Library, Torrance Blvd. at Madrona, at 7:15 pm. If you'd like more information, call our old friend and charter user group lister **Terrie Masters** at (213)271-6930.

In the north, meanwhile, the **San Francisco 99ers** meet, paradoxically enough, in Oakland, at 3751 Elston Avenue, on the third Saturday of the month. Call **Fred Layton** at (415)530-8335 for further specifics.

B.B. Jarvis of Pleasanton sends word, meanwhile, that there's a new **PC-Clone** club in the East Bay. The first meeting will be held on October 7 at Cal State Hayward, Room 2078, Meiklejohn Hall, at 8 pm. The group offers the expertise of veteran PC users and the resources of a large public domain software library.

The unusual part of this story is that this group is the latest incarnation of the **TRS-Nybblers**, which now also supports MS-DOS. All PC clone users are welcome, and you're invited to call (415)538-2449 or (415)846-3575.

If Prolog is your language of choice, you'll be glad to know that there's a new group called **The Prolog Forum**. The Forum meets on the second Thursday of each month at 7 pm, and offers an opportunity for vendors of Prolog-based products to present their products and for Prolog users to interact and shape the course of the language's development. If you'd like to know more about this, call **Mark** or **Jacqueline Epperson** at (415)657-4075; email can go to **mark_allan_epperson@cup.portal.com** and US mail should be directed to Prolog forum, P.O. Box 3826, Redwood City, CA 94064.

Martin Tracy of the **LA Real-Time Problem Solvers** invites you to come visit his group, which meets from 10 am to 1 pm on fourth Saturdays at the Hawthorne Public Library, 12700 South Greviellea Avenue in Hawthorne. He also gets the editorial-grin-of-the-month award for his description of the group: "We speak A/D, SBC, RISC, ASM, Forth and C. We support real-time real-world hardware and software problem solving, such as firmware, device drivers, instrumentation, and very smart toasters."

So if your toaster needs a brain transplant, or if you have some other real-time technical difficulty, give Martin a call at (213)371-0589.

Another useful resource in the LA area is the **On The Waterfront BBS**. **Bill Byrd** runs this board, which features conferences on programming, *Clipper*, *dBASE*, C, *Lotus* and other delights. The board runs 24 hours a day at (213)306-2581 at 300/1200/2400 baud, 8-N-1.

As you may have noticed from reading this and other publications from time to time, operating a BBS these days is often a legally complex situation. This being so, sysops and prospective sysops might want to check out a new book *SYSLAW: A Legal Guide For Sysops*, by **Jonathan Wallace** and **Rees Morrison**. Both authors are lawyers and long-time BBS operators; they promise that the book is written in clear English, however, and explains the legal rights and obligations of sysops. The hundred-page *SYSLAW* deals with such sticky problems as what to do if somebody posts copyrighted material on your board, the legal implications of those lovable Trojan Horse programs, whether you can bar someone from your BBS, and what happens if you delete a message by accident.

The book is available for $19 plus $2 postage and handling from LLM Press, 150 Broadway, Suite 610, New York, NY 10038. The authors also operate the **Lawyers Linked by Modem BBS** in New York at (212)766-3788.

Enough for this month. Keep the correspondence coming, by email to **microx** on The WELL (415/332-6106) or by US mail to User Group Network, 5951 Canning Street, Oakland, CA 94609.

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INTERNATIONAL

Cassia Express. (065) 344-9163. 300/1200/2400 24 hrs. Singapore. Sysop: N.M.Rahman

FidoNet Argentina (054). (011) 541-22-419. 8-N-1 3 PM-11 AM PST. The 1st fido node in Argentina has over 450 subscribers. Specializes in issues from S.A. PD software library to d-load. Sysop: Pable Kleinman.

Remote Bulletin Board (Singapore). (065) 445-1646. 9600/2400/1200 24 hrs. 218 MB Online (IBM upload/download). Sysop: Umar A. Rahman.

203

Terrapin Station. (203) 656-0134. Grateful Dead Board. Sysop: Klaus and Gretchen Bender.

209

Bertha Board BBS.(209), 239-9853, 300/1200/2400, 8-N-1, 24 hrs. MS-DOS, others. 95 Mb online. Emphasis on programming. Uploads and downloads. No fee but registration required. Sysop: Kenneth Roach.

Bertha Board. (209) 239-9853. 300/1200/2400 8-N-1 24 hrs. MS-DOS, others. Some emphasis on programming. Up- & downloads. Free. Registration required. Sysop: Kenneth Roach

Oasis Software Library.(209), 823-2803, 300/1200/2400, 8-N-1, 24 hrs. Shareware and PD for IBMs and compatibles. No fee but registration required. Sysop: Tim Campi.

Silicon Realms. (209) 754-5530. 300/(1200 Soon) 9:30AM to 6:30AM.Formerly Motherload 64. Commodore, PET & Plus/4. Programmers board, Continuing & Short Story boards, FRPG. Sysop: Joe Commodore

SMERDON'S CASEL (California Attractions, Sights and Entertainment Listing), (209) 521-4910, 8-N-1, 24 hrs., 300/1200/2400. Information on over 700 things to do and see in California. Free. Sysop: Sharon Smerdon.

The Backdoor BBS.(209), 952-9430, 300/1200/2400, 8-N-1, 24 hrs. MS-DOS oriented board. Lots of software, online chess game, much more. Sysop: Randall Fox.

212

RadNET OnLine Services 24 hrs. Online computer network for Nuclear Medicine professionals. Offered through Compuserve. Regular on-line conferences. Call for information and registration. Voice phone: (212) 856-6449.

213

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ICN. (213) 204-0646. 2400/1200/300 24 hrs. The place to buy/sell/trade collectibles (stamps, books, etc.)

Information Symposium. (213) 258-5086. 300/1200/2400 8-N-1 24 hrs. Serving the Info. Professional, Tech. Info, M.I.S. Employment. MS-DOS; OS/2; graphics. Password req'd for access is "Micro." Sysop: William Bloomer.

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312

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408

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415

"/usr/school" (415) 751-0898, 7-E-1, 24 hrs. A general interest Unix and C language board. Sysop: Dennis McNamara.

ABACUS - Atari Bay Area Computer Users Society. (415) 587-8062. 300/1200 24 hrs. Free messages and downloads for 8-bit & ST users. Sysop: Ed Van Pelt

AIDS BBS. (415) 626-1246. 300/1200 24 hrs. Free. All welcome. Mail send/receive on AIDS: please not on other subjs. due to time & access limitations. Library. Sysop: Ben Gardiner

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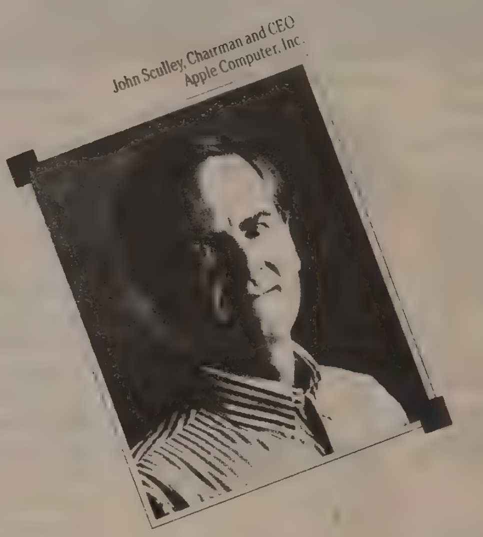
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Adventurer's Castle. (714) 871-4119. 300/1200 24 hrs. Real time gaming. Sysop: William E. Hart

Amiga Friends. (714) 870-4754. 300/1200/2400 24 hrs. Run by one of S. California's largest Amiga clubs. Special interest sections, downloads, club activity information. Sysop: Scott Thayer

Bits & Pieces of Anaheim. (714) 630-8897. Amiga and IBM.

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Calsonic. (714) 830-5958. Password=CII. Use real names. Sysop: Kerry Williams.

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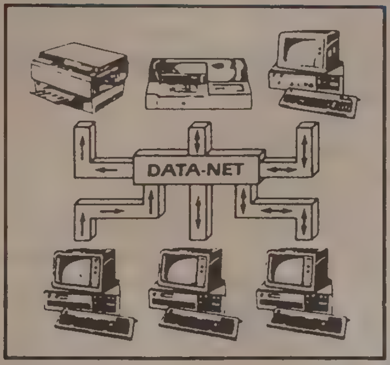

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HARDWARE COMPATIBILITY:				
IBM, DEC, Apple, H-P, minis, micros	YES	YES	YES	YES
SOFTWARE COMPATIBILITY:				
DOS, UNIX, XENIX, others	YES	YES	YES	YES
NUMBER OF PORTS	6	6	6	8
Type of Port	Serial	Serial	Serial	Serial & Parallel
Input or Output	5 Inputs 1 Output	5 Inputs 1 Output	User Select	User Select
Cascading		YES	YES	YES
Speed of throughput:				
Maximum Speed	38.4K	38.4K	38.4K	19.2K
Maximum simultaneous speed	19.2K	19.2K	19.2K	19.2K
Speed selection jumpers	YES	YES	YES	YES
Bi-Directional throughput			YES	YES
BUFFERING CAPABILITIES:				
Dynamic Memory Allocation	YES	YES	YES	YES
256K RAM standard	YES	YES	YES	YES
MEMORY EXPANSION:				
User upgradeable to 1 Megabyte	YES	YES	YES	YES
RESIDENT COMMANDS & USER SELECTABLE CONTROL:				
End of Data Timeouts (seconds)		15 to 120	15 to 60	15 to 60
Software EDD command			YES	YES
Port Select Switch, Data PBX compatible			YES	YES
Next Available Port:				
Switch control			YES	YES
Software command			YES	YES
SOFTWARE COMMANDS:				
Collate, 1 to 99 copies			YES	YES
Lock-on			YES	YES
Data Hold			YES	YES
Cancel			YES	YES
Port Selection			YES	YES
Pause			YES	YES
APPLICATION SOFTWARE:				
EasyLAN (file transfer)			YES	YES
DUET (RAM resident software commands/spooling)		YES	YES	YES

1. Available as: (8 Serial), (4 Serial & 4 Parallel, (6 Serial & 2 Parallel)
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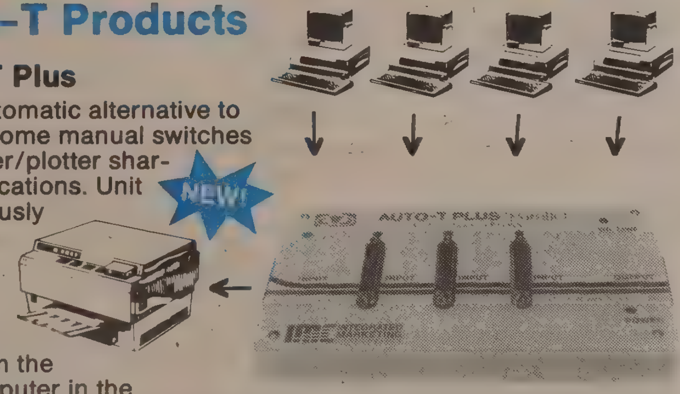

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Part No. CCAT-S
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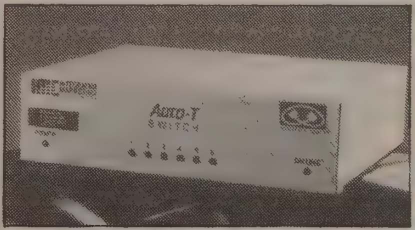

Part No.	Input Ports	Output Ports	Mfr. Sugg. Ret.	Special Intro Price
CCAT-3	3 Ser/3 Par	1 Serial	$295	**$249**
CCAT-4	3 Ser/3 Par	1 Parallel	$295	**$249**
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CCAT-6	6 Parallel	1 Parallel	$249	**$229**

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Fantasy Plaza. (818) 840-8066. 300/1200. Online adventure game.

Fox Hole. (818) 332-3073. 300/1200 24 hrs. Home of Pervert's Palace. On-line games etc. Write for info: P.O. Box 1071, Walnut, CA 91788. Sysop: Dr. Foxe, Ultamacy

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916

24th Street Exchange. (916) 451-7179. 300/1200/2400 8-N-1 24 hrs. Opus-based system. Free access. Lge. selection pub. domain files for IBM & compatibles. Special interest areas. Sysop: Don Kuhwarth/Laura Stua.

Dial-Your-Match. (916) 275-1265. Redding.

Dial-Your-Match. (916) 736-0739. Sacramento.

Hackney's Hideout BBS. (916) 961-1042. 1200/2400 8-N-1. Includes AT&T users conference. Sysop: Rich Hackney.

Night-line Network Central. (916) 331-5043, 300/1200, 8:00 PM to 8:00 AM daily. Forum for individuals, clubs and organizations that want to network nationally with others. Sysop: Eric Thomas.

Phoenix Landing BBS. (916) 966-8243. 300/1200/2400. Macintosh oriented but many other computers are supported. File areas for Mac and other computers. Supports echomail conferences including ECHOMAC and BAYMAC.

ASSOCIATIONS

AACCPAC Accounting SIG Of UCLA Users Group. Meeting: 2nd Wednesdays @ 7 PM. Users, CPAs, consultants and other business people interested in sharing information on Computer Associates ACCPAC Accounting Software. Call Donna Miller, (213) 393-0244.

California Educational Computing Consortium CCCE. For information write Herb Garrett, Long Beach City College, 4901 E. Carson Street, Long Beach, CA 90808.

Computer Professionals for Social Responsibility. Meetings: Most third Wed. 7:30 PM UCLA. CPSR/LS focuses on computer system risk and reliability and on privacy and civil liberties issues.

International Blind Users Group (I-BUG). Part of the National Association of Blind and Visually Impaired Computer Users. Membership consists of access to CompuHelp, a 24 hour online database/bulletin board system, and receiving CompuHelp On-Disk, a modem database-bulletin board system on two double-sided disks. (916) 783-0364 or 645-8036.

L.A. Real-Time Problem Solvers. Meetings: 4th Saturdays, 10 AM to 1 PM. Hawthorne Public Library, 12700 S. Greviellea Ave., Hawthorne. We speak A/D, SBC, RISC, FORTH and C. We support real-time, real-world hardware and software problem solving, such as firmware, device drivers, instrumentation and very smart toasters. (213) 371-0589.

North Orange County Computer Club (NOCCC) Meetings: Monthly on Sunday, @ Chapman College near downtown Orange. Help for beginners, SIGs, educational activities, monthly newsletter. Open to any computer user. (714) 998-8080.

Realtor Microcomputer UG (RUG). Meetings: 4th Thurs. 7 PM Pasadena BOR, cnr. Orange Grove & Los Robles, Pasadena, CA.

USER GROUPS

AMIGA

Amiga Friends. Meetings: 3rd Sun. Rancho Santiago College, Rm R-124, 17th & Bristol, Santa Ana. Call for current meeting info: (714) 775-7237 (24 hrs.) or write: P.O. Box 4186, Huntington Beach, CA 92605.

Amiga Special Interest Group. Meetings: 1st Sunday except holidays. Chapman College, 333 N. Glassell, Orange, CA. Amiga SIG is part of the North Orange County Computer Club, a thousand member organization together 12 years.

Amiga Users Group of Long Beach. Meetings: 3rd Sun. 1-4 PM Mid-Cities Nat'l Bank, NE corner Lakewood & Artesian, Bellflower. We have a class that meets the second Sat of each month,1 to 4 pm. Something different every month.

Bits & Pieces Amiga Group of Anaheim. Meetings: 1st & 3rd Sat. 10 AM—2 PM 1130-A North Kraemer Blvd., Anaheim, CA. Sponsored by Transnational Electronics. BBS: (714) 630-8897.

Bits & Pieces Amiga Group of Anaheim. Meetings: each Tues. 6:30-10 PM 1130-A North Kraemer Blvd., Anaheim, CA. DOS Classes, tech. help & more. BBS: (714) 630-8897.

LAAUG-Los Angeles Amiga Users Group. Meeting: 3rd Wednesdays @ 7:30 PM. Veteran's Auditorium at Overland Ave. & Culver Blvd. Many SIGs, Rookie, music, video, monthly PD disks.

Pacific Computer Club. Meetings: 2nd Thurs. 7 PM 391 S. Madison, Pasadena, CA.

South Orange Commodore Klub (SOCK). Meetings: 3rd Saturday 9:00 A.M. Union Savings, 23688 El Toro Road, El Toro, CA. For Commodore 64/128 users and Amiga users. One-hour general meeting is followed by separate group meetings for each.

AMSTRAD

AMSTRAD User Group, U.S.A. Meetings: 4th Tues. 7 PM & 8 PM Venice High School, 13000 Venice Blvd. Since Sears dropped the PCW8256, group formed so users/owners can support each other.

APPLE

Original Apple Corps. Meetings: 2nd Sun. 12:00 Noon 3rd Floor Community Room, Santa Monica Mall. First Apple group ever. SIGs for AppleWorks, Telecomm, Educators, Macintosh. Call Fred Duffy at (213) 396-5515.

Tri-City Apple Users Group. Meetings: 3rd Thurs., 7:00 PM, 50 N. Hill Ave., Pasedena. Call (818) 846-6682. Friendly Apple II experts.

ATARI

Atari Computer Association Of Orange County. Meetings: 2nd Sun. Rancho Santiago College, Room W101, Santa Ana. BBS: (714) 540-7378.

Pasadena Area Local Atari Computer Enthusiasts (PALACE). Atari 8-bit and ST support. Chris Roberts, (818) 359-1697, 220 N. Encinitas Ave., Monrovia, CA.

Santa Clara Valley Atari Computer Enthusiasts (SCVACE). Meetings: 1st Thurs. 7PM Mint Canyon Moose Lodge, 18000 W. Sierra Hwy, Canyon Country. 8-bit group. Atari ST special group now forming.

South Bay Atari ST Computer Club. Meetings: last Mon. 8 PM 15331 Praire Ave. Lawndale.

COMMODORE

Bits & Pieces Commodore Computer Group of Anaheim. Meetings: each Tues 6:30 PM 1130-A N. Kraemer Blvd. (Kraemer & La Palma), Anaheim. Offers public domain software, demonstrations, interactive training on your computer. $33 annual dues.

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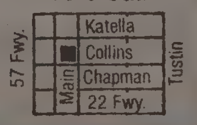

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Pacific Computer Club. Meetings: 2nd Thurs. 7 PM 391 S. Madison, Pasadena, CA.

Pasadena Commodore Computer Club. Meetings: 1st and 3rd Weds. 7:00 PM Circadian Room, Pasadena City College Cafeteria. Colorado Blvd & Hill, Pasadena. Call (818) 447-2212 after 2:30 PST or write P.O. Box 163, Arcadia, CA 91006.Supports C64 and 128 machines.

South California Commodore Users Group. Meetings: 3rd Tuesday each month, 7:00 P.M., MidCities National Bank, Lakewood and Artesia Blvds., Bellflower, CA.

South Orange Commodore Klub (SOCK). Meetings: 1st Wed. 7 PM Laventhol & Horwath, Exec. Conf. Rm.7th Fl., 3699 Wilshire Blvd., LA, CA.

South Orange Commodore Klub (SOCK). Meetings: 3rd Saturday, 9:00 A.M., Union Savings, 23688 El Toro Road, El Toro, CA. For Commodore 64/128 users and Amiga users. One-hour general meeting is followed by separate group meetings for each.

dBASE

Valley West dBASE Users Group. Meetings: 3rd Mon. 7:00 PM Blue Cross Of California, 21555 Oxnard St., Woodland Hills. Call (818) 343-9033 or write P.O. Box 16971, Encino, CA 91416.

DEC

DECUS Rainbow Pacific PC-LUG. Meetings: 2nd Wed. 7:00 PM Digital Equipment Corporation, 6101 W. Centinela, Ave., Culver City. Digital Equipment Computer Users Society. Free to DEC users. Call Karen Danforth (818) 787-8736 or write P.O. Box 2278, Van Nuys, CA 91404.

EPSON

San Fernando Valley Epson QX User Group. Meetings: 3rd Tues. 7 PM Fallbrook Sq. Comm. Rm., Fallbroook Mall, 6633 Fallbrook Ave. Canoga Park.

IBM AND COMPATIBLES

Calsonic PC Club. Meetings: 1st Tues. 5:15 PM 9 Holland, Irvine, CA.

Greater South Bay PC User's Group. Third Thursdays, @ 7 PM, Building behind Christ the King Lutheran Church, 2706 W. 182nd St. Torrance. Newsleter, BBS, more! Guests welcome. Call for more information. Evening: (213) 532-2123.

Greater South Bay User Group. Meetings: 3rd Thursday, 7 P.M., Fellowship Hall, Christ the King Lutheran Church, 2706 W. 182 St., Torrance, CA. Bulletin Board, library and newsletter are featured services.

IBM & Compatibles Users Group-Ontario Area. For information call: (714) 982-1270.

Kenny's Computer Club. Meetings: Each Saturday 8:00 A.M. t133 Locust St. Apt. 19, Long Beach, CA. For those with an interest in graphics, DTP, Lotus, Autocad, games, databases and word processing.

Kern Independent User Group. Meetings: Write Kern Independent PC User Group, P.O. Box 2780, Bakersfield, CA 93303.

Long Beach IBM Users Group. Meetings: 3rd Tuesdays. 7 PM, Woodruff Medical Plaza, 3816 Woodruff Ave., Room A, Long Beach. Contact: Jim Wells.

Long Beach IBM Users Group. Meetings: 3rd Wed. 7 PM Woodruff Medical Plaza, 3816 Woodruff Ave., Room A, Long Beach.

OKOK Computer Users Group. Meetings: 2nd Wed. 7-9 PM Altadena Public Library, 600 E. Mariposa. Call (818) 794-3243. Serves, Osborne, Kaypro, Commodore C128, PCs and compatibles and both MS-DOS and C/PM operating systems.

Orange Coast IBM PC User Group. Meetings: last Sat. 9 AM Science Hall, Orange Coast College, Costa Mesa, CA.

Orange County IBM PC Users Group. Meetings: 2nd Thursdays 7:30 PM. Bradford Retirement Community Center, 1180 N. Bradford, Placentia. Meetings feature guest speakers on hardware and software topics related to the interest of our members. Other activities include sharing tips and problems, access to club library and a club newsletter. Call: Mike Lyons, 2114 W. LaPalma, Anaheim, CA 92801. (714) 774-3236.

Pacific Computer Club. Meetings: 2nd Thurs. 7PM 391 S. Madison, Pasadena, CA.

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South Bay Users Group (SBUG). Meetings: 1st Sun. Mercury Savings, Long Beach, CA.

South County PC Users Group. Meetings: 3rd Sat. 9 AM Great American Savings, 23688 El Toro Rd., El Toro, CA.

Technical Users Group (TUG-NET). Meetings: Call for info (818) 882-6045. BBS (818) 882-6045.

The IBM & Compatibles User Group (ICUG). Meetings: 4th Thurs. 6:30 PM or 7:30 CAL Lutheran Univ., 60 W. Olsen Rd., Thousand Oaks. Group is 5 yrs. old & has 150 members Meetings begin at 6:30 for beginners, 7:30 regular members.

The Southern California K-Man Users Group. Meetings: 1st Wednesday, 7:00 P.M., Laventhol and Horwath, Executive Conference Room, 7th Floor, 3699 Wilshire Blvd., LA. Demo of the month features new software and hardware.

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LEADING EDGE

Leading Edge Computer User Group of Ventura County. Meetings: 2nd. Sat. 10 AM Camarillo Library, 3100 Ponderosa Dr., Camarillo, CA. Lectures on hard/floppy disk usage; program demos; beginner classes. Single: $20, couple $25.

MACINTOSH

California State University Macintosh Users Group. Meetings: California State University, Long Beach.

LAMG (Los Angeles Macintosh Group). Meetings: Call (213) 278-LAMG or write 12021

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Original Apple Corps. Meetings: 2nd Sun. 12:00 Noon 3rd Floor Community Room, Santa Monica Mall. First Apple group ever. SIGs for AppleWorks, Telecomm, Educators, Macintosh. Call Fred Duffy at (213) 396-5515.

SBAMUG (South Bay Apple Mac User Group) Meetings: Last Wednesday of each month, 7:30 PM, Ticor Title, 4240 Artesia Blvd., Torrance. Call (213) 316-7738.

South Coast Macintosh Users Group. Meetings: First Tuesdays, @ 7 PM, Goleta Library. Publishes a newsletter with reviews, offers advice, support for Mac users, discounts at local dealers. Call: Vince Leamons, 685-7295.

West Orange County Macintosh Users Group (WOCMUG). Meetings: Last Tuesday. F & M Bank in Rossmore Center, Orange County, CA.

NETWARE

Orange County Network Users Group (OCNET). Meetings: 2nd Tues. Wyle Labs, Irvine CA. Open to users, consultants, all interested in NETWARE. Call Mark at (714) 955-0616

Netware User Group Los Angeles (LOSNET). Meetings: 2nd. Wednesdays. Welcomes consultants, CPA's, dealers and users interested in sharing information on NETWARE and related products. Call Fane, (213) 452-1335. 2716 Ocean Park Blvd, Santa Monica 90405.

OPEN SYSTEMS

Open Systems Accounting, So. Cal Users Group (OSASCUG). Meetings: 4th Wed. Wyle Labs, Irvine, CA. Users of Open Systems, Altos Accountant, CADO, & Rexon accounting software. Open to end users, dealers and consultants. Call Mark: (714) 955-1724.

OSAS Systems Users Group Los Angeles (OSASUGLA). Meetings: 1st Wednesdays. Welcomes consultants, CPA's, dealers, users and QI's interested in sharing information on OSAS and related products. Call Fane, (213) 452-1335. 2716 Ocean Park Blvd., Santa Monica 90405.

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TANDY/RADIO SHACK

Los Angeles - Wilshire Color Computer Users' Group. Meetings: 2nd Sat. 12:30-5:30 PM Felipe de Neve Library's Comm. rm., 2820 W. 6th St., LA, CA.

South Bay Users Group (SBUG). Meetings: 3rd. Fri. Mercury Savings, 22939 Hawthorne Blvd., Torrance, CA.

TEXAS INSTRUMENTS

LA 99er Computer Group, 4th Wednesdays, August 24, Sept. 28, Oct. 26. @ 7:15 PM, Torrance Public Library, Torrance Blvd. @ Madronna. Call: Teresa Masters, (213) 271-6930.

San Fernando Valley TI-99/4A User Group. Meetings: 2nd Wed. 7:30 PM Doctor's Conf. Rm., Sherman Oaks Hospital, 4929 Van Nuys Blvd. Call for info: (818) 248-9558.

SFV 99ers. Write: 2823 Sanborne Ave., La Crecenta, CA 91214.

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TI Users Group of Orange County. Meetings: 3rd Thurs. Peek Funeral Home, 7801 Bolsa Ave., Westminister. Call 633-7317.

TIMEX/SINCLAIR

Timex-Sinclair Users Group. Meetings: 3rd Mon. 7 PM 11828 Jefferson Blvd., Culver City, CA.

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TELECOMMUNICATIONS *continued from page 90*

some Prodigy insiders that the company has simply made a poor business decision and hired a distribution company that couldn't handle the task. The official word at Prodigy is still along the "supply and demand" line. But hasty calls to Prodigy marketing reps yielded quick results. Bay Area Prodigy subscribers suddenly had their software within hours. At very latest, the next day, via UPS delivery.

> **The appeal of this "online people magazine," as futurist and SRI technology analyst Tom Mandel calls it, is that you can "talk to the stars." Better yet: they "talk back."**

Then a potential time bomb surfaced. Reports of a horrendous bug in the software started flooding into a conference on the WELL (which, by the way, has such an extensive and technically solid ongoing discussion of Prodigy that several Prodigy execs are logging on to keep up with the news from the field).

The buggy software, as it turns out, goes berserk on a user's hard disk. In the process it writes an eight-megabyte file to disk, in place of a file that normally hovers around 150K.

The news sent shock waves through the new Prodigy community. Some of those hit by the bug cranked up the flame thrower and sprayed it liberally on the WELL's Prodigy topic (in the Telecommunications conference). One wag even speculated that Prodigy had been hit by some insidious virus. (Not true.)

Calls to Prodigy customer support provided some sketchy details."Yes,' there was a known bug. No immediate replacement was being issued. Another software release sometime in September...."

September?! Those hit by the bug were livid. But true to its name, Prodigy's execs were already moving to head off a mini user revolt. Setting up three-way conference calls, top-level technical staff from Prodigy began in-depth discussions with those hit by the bug. Taking a page from Christopher Matthew's book on "political hardball," Prodigy "hung a lantern" on their potentially explosive problem. I had full interview access to top Prodigy executives when I wanted to track down the bug story. Later I was on a conference call to Prodigy's top programmer. Beyond just the media's access to top execs, Prodigy told one subscriber that they would have a programmer fly out and personally inspect the damage done to their hard disk. "They really wanted to solve my problem," says SRI's Mandel. "And I got the feeling that they are genuinely concerned about making sure the problem doesn't affect others."

Les Birney, the programmer in charge of the fixing the bug, tells me that they're ready to start distributing the fix. First up are the ones that have been hit by the bug. "These people will be receiving new software right away," says Birney. From what Birney tells me, that amounts to only eight people — hardly a crisis, but it's indicative of how much attention Prodigy is paying to problems that are cropping up. The September release is "simply a matter of logistics," says Ek. "We have to get thousands and thousands of new disks made. And that takes time." Birney says he was experimenting with the idea of delivering the fix electronically. The next time you'd log on, the system would automatically update your disk with the new software version. "But that's on hold while we make sure all the problems are solved," says Birney.

Jaded computer journalists have harangued Prodigy as too simplistic; some have called it imbecilic. These are writers poured from the same mold as that of their predecessors — those journalists that said the telephone would never be useful. I'm not sure that I would own up to calling Prodigy a "genius," but I will give them "unique."

Yes, there have been other videotex systems before Prodigy. But none with the forethought and dedication of the "people in the trenches." IBM bashing is a favorite pastime for the computer press, but such bashing is ill-founded here. For in this venture, although IBM's stamp may be on the product, none of its "heart" is here. And that may be the biggest stroke of genius of all. □

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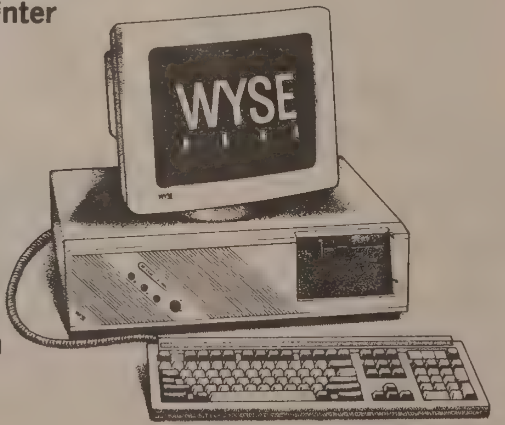

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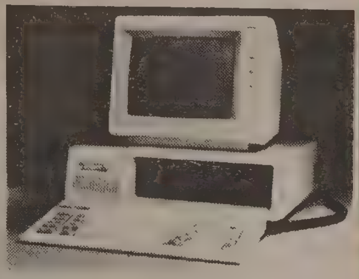

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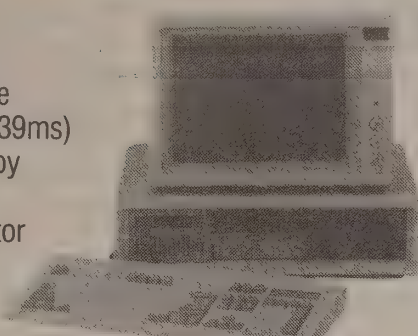

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and you have the demoralizing feeling of being a second-class citizen.

Exception — The Laser 128 EX. This machine (distributed by Central Point Software as well as Video Tech) is the only clone worth considering. It's what Apple should have done to upgrade the IIc. Compatibility is very good — most software thinks the Laser is an enhanced IIe. There is one slot plus internal provision for memory expansion, and a nifty built-in accelerator. Buy it with a 3.5" external drive if you can.

RULE 7: Don't Buy A Daisy Wheel Printer

A lot of beginners make this mistake. They figure a computer is a substitute for an electric typewriter and they want hardcopy that looks just like a typed document. Apart from being slow and horribly noisy, daisy wheel printers can't produce graphic output. Graphic output is one of the best things about owning an Apple, especially for younger users.

With a new ribbon and the right software, the "Near Letter Quality" mode of a good dot matrix printer is perfectly acceptable for term papers or business correspondence. Apple's rather pricey ImageWriter II is a safe choice (almost mandatory if you have a IIGS).

RULE 8: Don't Buy A Computer For A Very Young Child

"Very Young" here is a judgment call. If you have a future Grace Hopper or Alan Turing toddling around the house, no rules apply. In general, however, children under the age of 7 are unlikely to have much fun (or learn much) from an Apple II. The keyboard is too big a barrier.

Exception — There are a few very well-designed "early childhood education" programs for the Apple II. Any computer-using teacher can recommend some favorites. They do not, however, justify the purchase of a home computer for most middle-class family budgets. If you happen to run a pre-school or day care center out of your house, you can probably write off the computer as a business expense.

RULE 9: Don't Buy Bits And Pieces —Get A Complete System

For most beginners, buying a computer is a high-anxiety experience. Don't prolong the agony by purchasing a system one component at a time over an extended period. You need the emotional boost that comes from getting something up and running, right out of the box. You will also probably get a better deal if you buy a complete system, whether you are buying retail or secondhand (see Rule 5, above).

For an Apple IIe, a minimal complete system would include the computer, one disk drive and controller (two drives are much better), monitor, printer and mouse or joystick. For a IIGS, a minimal complete system would include the computer ("CPU"), one disk drive of each kind (3.5" and 5.25"), analog RGB color monitor, and Imagewriter II printer. A cooling fan with built-in surge suppressor is a practical precaution for any system.

RULE 10: Don't Buy A Lot Of Software Right Away

If you don't type, your first investment should be a good typing tutor program. You'll get a lot more out of your computer if you make friends with the keyboard.

You almost certainly want *AppleWorks* (now published by Claris Corporation). It isn't cheap, but it gives you a word processor, spreadsheet and database that all play by the same rules. Don't worry if you don't know what a spreadsheet or a database does. When you need 'em, they'll be there. More and more schools are using *AppleWorks*, and there is a huge industry devoted to *AppleWorks* add-ons and enhancements.

If you aren't well-organized, don't expect miracles from a "personal finance" program. That's probably the largest software category of well-meant impulse purchases that now sit forlornly unused on the shelf.

For young kids, anything under the imprint of the Children's Television Workshop, The Learning Company or Davidson is a safe bet. For older kids, anything with the Broderbund label (except violent games) is a good choice.

If you join a user group, you can get a lot of good public domain software for little more than the price of blank disks. Sometimes the documentation is in a text file right on the disk and all you have to do is print it out. Avoid buying copy-protected software, if possible. It sends a message to publishers. And above all, don't pirate copyrighted software or associate with people who do.

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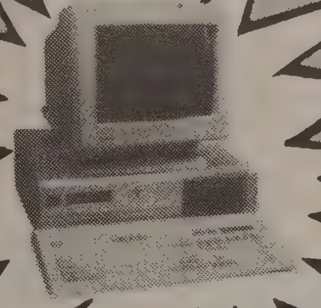

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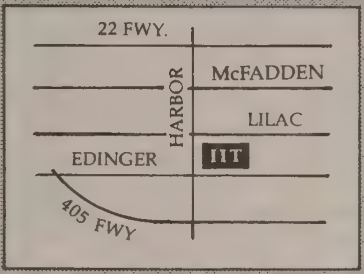

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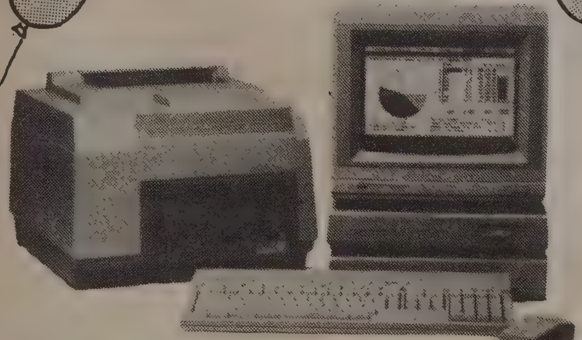

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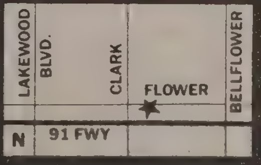

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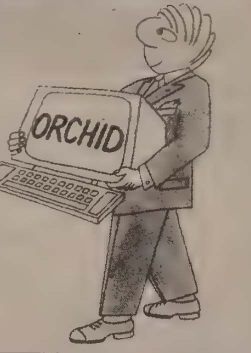

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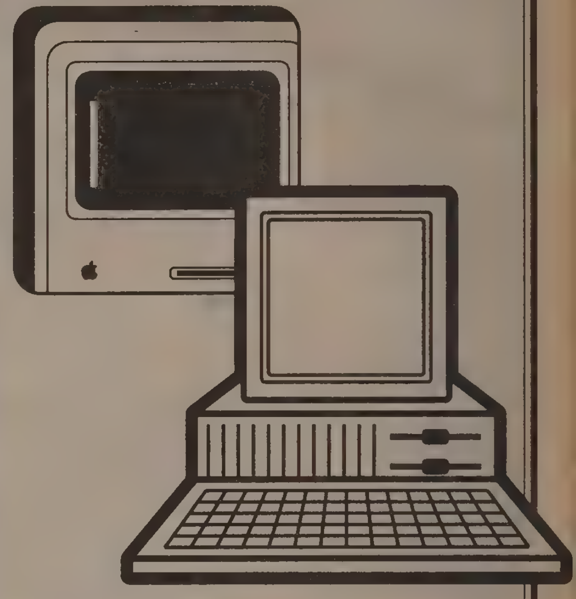

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M1509 — 180cps, 132 column	.$359
M1724 — 24-pin head, 216cps.	.$669
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Diablo 635 — 35cps daisywheel.	$575

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FX-850 — 264cps, 80 column .	.$379
FX-1050 — 164cps, 132 col.. .	.$549
LQ-850 — 24-in, 80 col.	.$569
LQ-1050 — 24-pin, 132 col . .	$769

CITIZEN

Citizen 180D — 150cps, 80 col	.$199
Citizen MSP15, 160cps,132 col.	$335
Citizen MSP25, 200cps, 132 col.	$399
Citizen MSP55, 250cps, 132 col.	$475
Citizen Premium 35 daisywheel .	$479
Citizen Tribute 224, 24-pin . . .	$599

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Fortis DM-1310 Printer, 130cps, 80 column.	.$225
Fortis DM-2010T Printer, 200cps, 80 column.	.$325
Fortis DM-2015T Printer, 200cps, 132 column	.$399

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NEC 2200 —24-pin, 80 column	.$375
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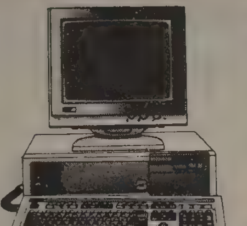

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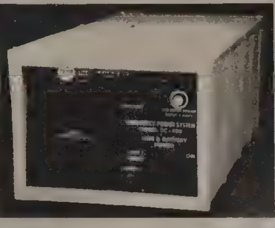

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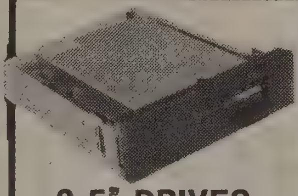

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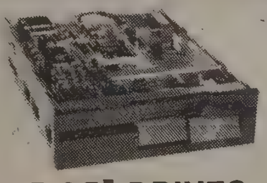

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Toshiba 360K drive.	$79
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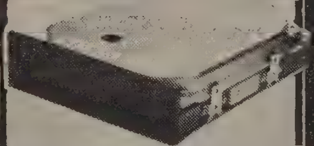

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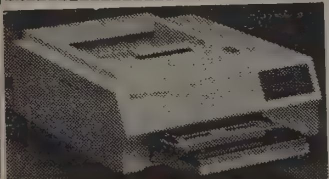

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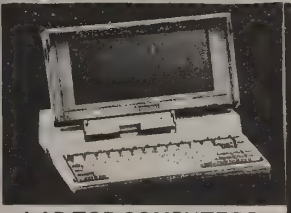

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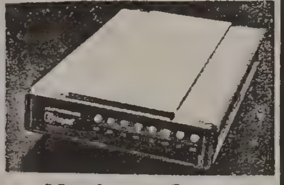

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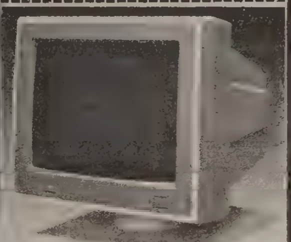

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Samsung 14" EGA Color. . . .	$375
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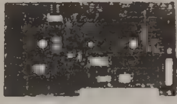
Taxan 770 Multisyn Color	$575
Taxan 860 — 16" Supervision .	.$579
Thompson 14" RGB Color . . .	$289
Thompson 14" Multisyn color	$545



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Genoa Level 7 EGA/VGA card	$199
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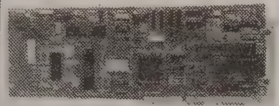

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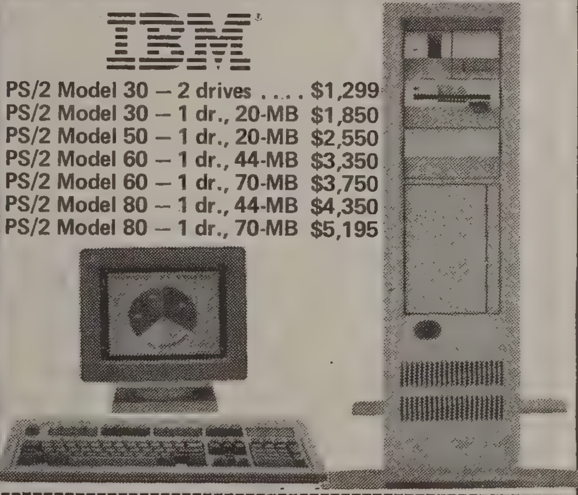

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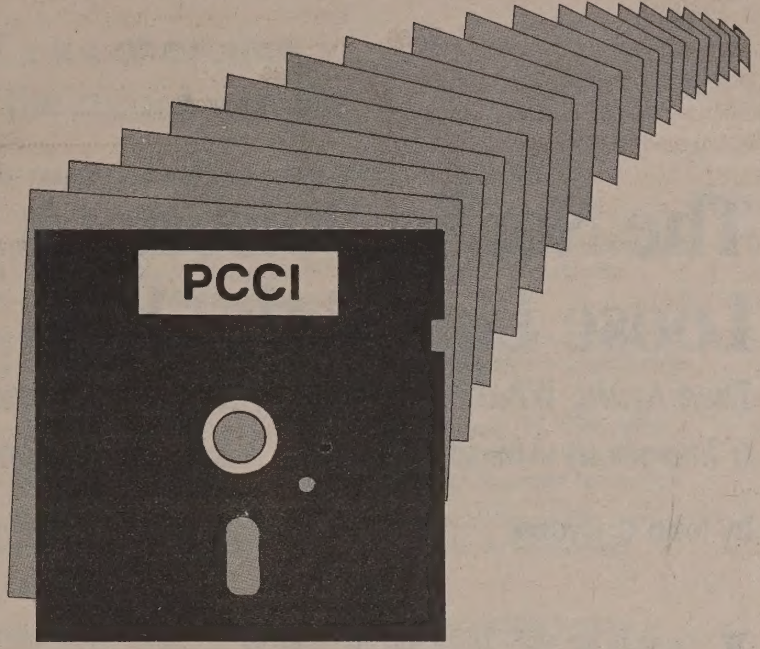

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DVORAK'S LAST COLUMN

The Not So Poisonous Pen Letter or, Loose Lips Sink Chips

Then Again, What's The Point Of Keeping A Secret If Everybody Already Knows — A Lesson For Apple

By John C. Dvorak

It came in the mail. There was no return address and no letter attached. Inside: a Mac disk. The postmark is unreadable. Suspecting a virus, I secure my system as best I can and boot the disk, which contains two *Excel* Spreadsheets and a *MacWrite* Memo.

The memo says:

The "Project by Team" contains the complete list of Apple plans on releasing (sic) for the next year or so. This Excel spreadsheet contains Apple II, Mac, A/UX, as well as the latest 68030 and flat panel specifications. The spreadsheet contains Beta and Final release dates as well as the names of their engineering leaders. The "Puff Bill of Materials" contains the exact breakdown of the new system 68030 system so you will know exactly its sound, ROM, and other features. I have sent you this information slightly ahead of the others. Go for it. If you are good I will send you more. Tell me what you want in your column.

Signed: from a person who wants Microsoft to win the lawsuit.

When the spreadsheets are put up on *Excel* (after waiting an eternity for them to load) one sees some interesting code words and NO INFORMATION. Who are you kidding, pal! Look for the Gyro — an Apple II GS+ (yawn) next February. Then there's Tron next January. Who knows what that might be? In 1991 we can expect Jupiter. Yeah, sure. Most of the listing is concerned with details about ongoing Apple IIGS stuff. B-O-R-I-N-G.

The fact is, if Apple didn't have a 68030 machine in the wings, someone would have to fire Sculley. So none of this is a surprise.

We do see that these projects are divided into two "groups." Software and CPU. All the interesting projects are being handled by J. Friedman. Other than that it's all raw information that needs explanation. This all appears to be an internal document done by an engineer high on *Excel.*

The "Puff" project is obviously the 68030 Mac II/III or possibly a fraud — a "puff" as it were. Whatever the case, the thing is incomplete. We do see the 16 MHz 68030 listed, various connectors and lots of custom chips. Note that the Foley sound chip was mentioned.

The parts list would be of value to anyone making a Mac clone, which is nobody as far as I can tell. I'm sure someone might find it of interest, but not the public. In other words, the whole thing is useless except to tell us that Apple has a 68030 machine in the wings. The fact is, if Apple *didn't* have a 68030 machine in the wings, someone would have to fire Sculley. So none of this is a surprise. In fact, it's a bore. I expect it sets a trend. Apple will be very predictable as time goes on. Boring, too.

So to my friend who wants to see Microsoft win the lawsuit: next time send me those juicy memos about office politicos doing nasty things. The hardware side is too obvious.

Nowhere on either spreadsheet did I see mention of half a dozen interesting products. Story time. I recently called Apple to borrow a modem for my Mac II. Because of the wacky world of connectors I couldn't find a combination that would work with the little Mac round connectors and a db-25. I tried a million combinations. There's always some pin reversed or wrong male-female match up. I gave up on it and decided to go with brand name equipment. I think it was Keri Walker who insisted that I try the FAX modem. I declined and requested the regular plain vanilla modem. I got the FAX modem anyway. I STILL NEED THE PLAIN MODEM EVEN WITH THE FAX MODEM! A message to Apple!

Anyway, the FAX modem is great. Apple has made a super little software/hardware combination that makes sending and receiving documents via FAX machine to and from the Mac effortless. Very nice implementation.

I've always avoided FAX machines and the world of FAX because it was a clunky old technology a decade ago. Dying, as I recall. I figured that email would surely kill it. Suddenly it's the "in" thing. Meanwhile, email struggles. I still can't understand why everybody doesn't get an MCI Mail account if they're in this business. It's especially valuable for large businesses where people have to check their memos frequently. It's the messaging system for all the Ziff-Davis publications, for example. It's used extensively by IBM, GM and others. It's hot.

Meanwhile FAX is in. Sheesh. I suppose that if one has to accept the fact that it will be necessary to have FAX capability (as seems the case), then this is the way to do it — on a Mac.

What I like about MCI Mail is that I can write an article for someone who doesn't get MCI and use an overnight hand delivered mode whereby MCI prints out the document on a laser and delivers it through one of the overnight services for $8 or so. Great way to get a manuscript to someone without dabbling in hard copy.

Meanwhile FAX is in. Sheesh. I suppose that if one has to accept the fact that it will be necessary to have FAX capability (as seems the case), then this is the way to do it — on a Mac.

Getting back to the point, there was no mention of this nifty product on the spreadsheets, making me think that this Microsoft fan is just some sort of production-engineering techie-type who garnered some limited information and passed it along. I think *Mac Week* and anyone else who would listen got copies.

Perhaps the next time someone has a hot tip they should take some advice from me. 1) Keep it exclusive and JUST give it to me! 2) Maybe next time you can FAX it over! ☐

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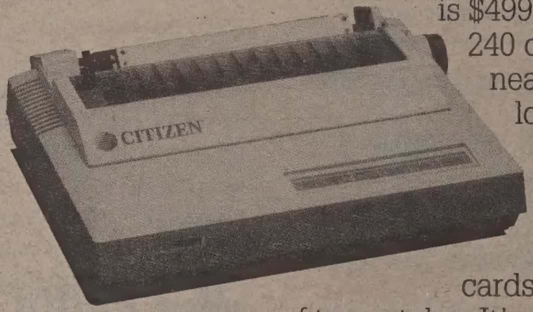

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